

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1930

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DEPARTMENT OF AGRICULTURE, EDMONTON.

TO HIS HONOUR

WILLIAM EGBERT,
Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the
Department of Agriculture for the year 1930.

I have the honour to be, Sir,

Your obedient servant,

GEORGE HOADLEY,
Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

Hon. George Hoadley, Minister of Agriculture.

1930

Heads of Branches

H. A. Craig, Deputy Minister and Superintendent of Schools of Agriculture.

J. F. Andrew, Assistant Deputy Minister of Agriculture.

P. W. Johnson, Secretary to the Department.

S. G. Carlyle, Live Stock Commissioner, Brand Recorder and Superintendent of Fairs and Institutes.

C. P. Marker, Dairy Commissioner.

P. R. Talbot, V.S., Provincial Veterinarian.

E. L. Gray, Field Crops Commissioner.

G. M. Cormie, Poultry Commissioner.

D. Douglas, Director of Demonstration Farms.

Benj. Lawton, Game and Fire Commissioner.

Miss Marion E. Storey, Acting Director of Alberta Women's Bureau.

Report of the Deputy Minister

HONOURABLE GEORGE HOADLEY,
Minister of Agriculture,
Edmonton, Alberta.

SIR:

I have the honour to submit herewith the report of the Department of Agriculture for the year 1930. This includes a resumé of the work carried on by each of the branches of the Department.

Crop yields during the past year have been fairly satisfactory. The average yield of wheat being 18.6 bushels per acre, with a total of 132,900,000 bushels as compared with the yield of 11.9 bushels per acre and a total yield of 103,670,000 bushels in 1929. Other cereal crops showed a substantial increase over the previous year. The value of our farm crops, however, is considerably below that of 1929, due to the economic depression which has adversely affected values of farm products. This decrease in value is well illustrated by the fact that the relatively large wheat crop of 1930 was lower in value by \$51,236,000 than the small crop of 1929. The abundance of fodder crops over a large part of the Province has been of great value in increasing production in other lines. The amount and value of the sugar beet crop in 1930 was practically double that of 1929.

There are indications of increasing interest in all branches of the livestock industry during the past year. The number of horses sold for export from the Province has decreased, indicating a greater use of the horse on the farm. Fewer cattle have been sold on the Edmonton and Calgary markets, and it is believed that this is due in part to the fact that female breeding stock is being retained and herds increased. Prices obtained for beef cattle during the first part of the year were quite satisfactory, but later prices have been considerably depressed. Trial shipments of cattle for export to Great Britain have been realizing a satisfactory price. The experiment in feeding range cattle and yearlings on the irrigated farms of the south proved to be very successful, and the number put on feed in the fall of 1930 is double that of the previous year. In spite of low prices for lambs and wool, the number of small farm flocks of sheep is steadily increasing, as is also the number of lambs placed in feed lots for winter finishing.

It is gratifying to note that the dairy industry is receiving a greater degree of attention than in past years. The production of dairy butter in 1930 exceeded that of 1929 by one and a half million pounds.

Approximately 53,000 fewer hogs were marketed on public stock yards in 1930 than in the previous year. During the past fall, however, large numbers of gilts have been retained for breeding

purposes and large increases in the number of hogs marketed may be anticipated in 1931.

Conditions for honey production have been most favorable, and a honey crop of one and a half million pounds was secured, this amount being practically three times the largest previous production. Every effort is being made to assist beekeepers in combatting disease and to create a better market for honey through educating the public with regard to its uses.

STAFF CHANGES.

Miss Jessie C. McMillan, who has rendered valuable and efficient service for a number of years, as director of the Alberta Women's Bureau, has been forced to resign through ill-health. The work of the bureau is now under the direction of Miss M. E. Storey, of the staff of the Vermilion School of Agriculture.

I am pleased to report that the staff of the Department, during the year, have rendered very efficient service, and the relationships with other agricultural organizations, such as the University of Alberta and the Federal Department of Agriculture, have been particularly happy.

H. A. CRAIG,
Deputy Minister.

Report of the Dairy Commissioner

(C. P. MARKER)

GENERAL.

The principal statistical features of the dairy business of the Province, as reported at some detail in the following pages, may be briefly summarized as follows: (1) An increase of 2,731 in the number of dairy cows, a little less than 1 per cent.; (2) a greater total milk production and average yield per cow, amounting to 5 to 6 per cent.; (3) an increase of slightly over 10 per cent. in the output of creamery butter, and (4) judging on the reported cold storage holdings, some increase in the production of home dairy butter. There was undoubtedly some increase also in the direct consumption of milk.

It will thus be seen that the increase in production, which was resumed during the year 1929, was continued into 1930. The average annual milk production per cow is now estimated at 4,600 pounds, with 175 pounds of butterfat. The financial side is not quite so pleasing, however, in that the market value of the year's dairy production declined by approximately 15 per cent. This decline was distributed at a more or less irregular rate upon the various types of products. The fluid milk and cream market paid relatively better prices than did, for instance, the butter factories, which were exposed to keen competition and world-market conditions in the marketing of their butter output. Reference to the second table printed in this report will show that the average selling price of creamery butter at the factory declined by 23 per cent. for the year, as compared with the average price of the previous year.

The butterfat in cream supplied to the creameries took a somewhat similar drop, and in this connection it is interesting to note that in one of the reports issued by the Empire Marketing Board there is a statement to the effect that the average London top quotation for New Zealand and Australian butter declined to practically the same extent, namely, 24 per cent.

The following table shows the comparative general average prices paid by creameries for each pound of butterfat in special grade cream, during each month of the past three years:

AVERAGE MONTHLY PRICES PAID FOR BUTTERFAT IN SPECIAL GRADE CREAM.

Month.	1928 Cents	1929 Cents	1930 Cents
January	40.0	39.2	38.0
February	40.6	39.0	38.0
March	42.0	39.0	36.5
April	41.0	39.0	32.0
May	36.3	35.0	28.0
June	32.0	33.5	25.2
July	34.5	35.0	25.0
August	38.2	35.1	25.0
September	39.6	36.0	25.5
October	41.0	38.0	27.0
November	41.0	38.0	27.0
December	40.2	38.0	26.5

The first serious drop in prices occurred in April, showing a decrease of 18 per cent. from the previous year's figure. In May the decrease was 20 per cent., in June 25 per cent., and each of the five months thereafter 29 per cent., and finally, for the month of December 30 per cent. These figures give a very fair picture, also, of the condition of the butter market. There were large imports of butter into Canada from New Zealand, and later from Australia, and heavy accumulations in cold storage.

The figures in the foregoing table represent, as already intimated, the general average current price for each month, paid by the great majority of the creameries. Taking into consideration, however, the "above average" prices paid by some creameries and the patronage dividend paid by the pool creameries, the average price for the year will be practically 28½ cents per pound of butterfat in special grade cream.

ALBERTA

QUANTITIES AND VALUES OF DAIRY PRODUCTS, 1930 AND 1929.

1930			
Product	Pounds	Price, cents.	Total Value.
Creamery butter (92 creameries)	17,716,744	28.04	\$ 4,968,227
Factory cheese (8 factories)	1,035,352	16.94	175,392
Other dairy products* .....	.....	.....	13,531,881
Total Value .....	.....	.....	\$18,675,500
1929			
Creamery butter (95 creameries)	16,004,463	36.39	\$ 5,825,247
Factory cheese (10 factories)	1,001,475	19.78	198,047
Other dairy products* .....	.....	.....	14,726,706
Total Value .....	.....	.....	\$20,750,000

*Including milk and cream for direct consumption; ice cream; home-made butter and cheese; skimmed milk and buttermilk.

DAIRY CATTLE.

The Bureau of Statistics reports that there were 348,297 milk cows on the farms of the Province at the beginning of June, an increase of 2,731, or four-fifths of one per cent. over the number reported for the corresponding date of 1929. The number of "yearlings kept for milk" was 177,612, or nearly the same number as reported for the preceding year. These figures suggest that there will be a material increase in the number of milking cows and a corresponding increase in the milk production, in the immediate future.

The distribution of the dairy cows throughout the Province, by sections, was practically similar to that reported by the writer last year. Reference may be made, by way of a few details, to figures reported for milk cows in the several sections with some of the outstanding divisional figures.

The southern section, Census Division I-VI, the area extending from Bowden to the International boundary, showed an increase of 4,788 cows (4.5 per cent.) over the number reported for 1929. In this connection it may be of interest to add here that the year's increase in the quantity of butterfat in cream supplied to the creameries operating in this section amounted to 7.63 per cent. The territory south of Medicine Hat and the Lethbridge, Claresholm,

Pincher Creek and Cardston areas (Census Division I and II) showed an increase of 1,536, or 4 per cent., in the number of cows.

The Calgary to Bowden area, Division VI, reported an increase of 4,722, or 14.5 per cent., in the number of milk cows—the highest of any of the seventeen census divisions.

Next, the central section, Divisions VII-IX, Bowden to Millet, inclusive, shows an increase of 1,736 cows (1.8 per cent.). Division VIII alone reported 1,643 more cows than in 1929, a gain of 3 per cent. The creameries operating in the central section reported an increase of 13.34 per cent. in their cream supply for 1930.

The northern section, Divisions X-XVII, the territory north of Millet, reported 3,793 fewer cows; yet the cream supply of the creameries operating in that section was 12.27 per cent. greater than that of the year 1929. While, as we have seen, there was a general decrease in the number of cows reported for the northern section, we find that Division XIII, the St. Paul-Lac La Biche area, showed an increase of 1,321 cows, or 10.5 per cent. Strange to say, Division XI, which is mainly tributary to Edmonton, recorded a decrease of 1,947, or a shade over 5 per cent. in the number of milk cows reported for the previous year.

LICENSES AND PERMITS.

Eleven milk and cream testers' licenses in Form "A", one hundred and seventy-nine graders' and testers' licenses in Form "B", and one hundred dairy factory licenses in Form "C" were issued during the year under the provisions of The Dairymen's Act and Regulations, and the fees for the same amounted to \$880.00.

Twenty permits were granted for the transfer of cream under specified conditions, from one creamery to another, for manufacture.

COW-TESTING AND MILK RECORDING.

The organized cow-testing work has been carried on by the Dominion Department of Agriculture for a number of years, but until quite recently has not received the attention and support that it deserves at the hands of our dairymen. It is gratifying to note, though, that during the past couple of years very fair progress has been made. Mr. A. G. Moore, dairy promoter in charge of the work, has kindly furnished the following data as to the number of associations, members, and dairy cows included in the work during the past two years:

	1929	1930
Associations	7	18
Members (herds)	87	308
Cows	1,289	3,222

Mr. Moore also reports that farmers of a number of districts new to this work are now ready for the organization of local cow-testing associations under the rules of the Department.

Farmers of leading dairy countries appreciate very highly the value of the information which they obtain, directly, through the activities of their cow-testing and milk-recording associations, and indirectly the contact with the more recent findings of research

workers, throwing light on their breeding, feeding, and production problems and practices.

It is reported, for example, that there were 1,517 cow-testing associations operating in Denmark during the year, with 48,025 members, and 629,185 cows, more than 38 per cent. of the total dairy cows recorded in the census of July 15th last.

The dairy commissioner for New Zealand reports some very interesting data on the work of the herd testing associations in operation there. During the year 1929-30, 208,731 cows were on regular test, representing 20.4 per cent. of all the dairy cows in the Dominion. The average butterfat production of the cows under test is reported to have been 253.61 pounds.

Special reference is made to the extent of this work in Denmark and New Zealand, for the reason that these two countries furnished 57 per cent. of the imports of butter, and in the case of New Zealand, 63 per cent. of the cheese imports, into the United Kingdom during 1930. Our neighbouring provinces of British Columbia and Saskatchewan are developing this sort of work along very substantial lines, and there is every reason to expect that the lower price level for dairy products will give a strong impulse to the extension of any line of work that will promote a lowering of the cost of milk production.

CREAMERIES AND CHEESE FACTORIES.

Ninety-two creameries were operated during the year, and reported a butter output of 17,716,744 pounds, a yearly increase of 10 per cent. A new creamery was established and put into operation at Spondon, whereas the creameries that had formerly operated at Wainwright, Lloydminster, Macleod and Vegreville (Oak Leaf) did not re-open.

Eight cheese factories were operated in 1930—the Woodland Dairy, Ltd., Edmonton, and Burns & Co., Ltd., New Norway, having discontinued the manufacture of cheese. The eight factories reported a cheese production of 1,020,067 pounds for the year, an increase of nearly 2 per cent.

A list is appended giving particulars as to the location and ownership of the creameries and cheese factories. The creameries at Elnora and Bently were destroyed by fire during the latter part of the year, but the owners are making arrangements for re-building.

CREAMERIES AND CHEESE FACTORIES IN ALBERTA.

Cheese Factories.

Located at	Proprietors and Head Office.
Bawlf.....	Burns & Co., Ltd., Edmonton.
Bruderheim.....	Burns & Co., Ltd., Edmonton.
Buford.....	Woodland Dairy, Ltd., Edmonton.
Mountain View	Cardston Creamery Association, Cardston.
Round Hill	Burns & Co., Ltd., Edmonton.
Thorsby.....	C. W. Taylor, Thorsby.

Combined Creameries and Cheese Factories.

Leduc.....	Burns & Co., Ltd., Edmonton.
Millet.....	Burns & Co., Ltd., Edmonton.
Wetaskiwin	Wetaskiwin Creamery Co., Ltd., Wetaskiwin.

Burns & Co., Ltd., Edmonton, operate branch creameries at the following points:
Acme, Camrose, Daysland, Holden, Hay Lakes, Innisfree, Kinsella, Manville, Metiskow,

Nanton, Pincher Creek, Ponoka, Radway Centre, St. Paul, Stettler, Vegreville, Vermilion, Westlock, New Norway.

Central Creameries, Ltd., Calgary, operate branch creameries at the following points: Bentley, Bowden, Carstairs, Eckville, Okotoks, Olds, Rimbey, Rocky Mountain House, Sundre, Sylvan Lake, Youngstown.

Woodland Dairy, Ltd., Edmonton, is head office for the following creameries: Glen Park Butter & Cheese Co., Ltd., Calmar; Chipman Creamery Co., Ltd., Chipman; Edgerton Creamery Co., Ltd., Edgerton; Elk Point Creamery, Ltd., Elk Point; Woodland Dairy of High Prairie, Ltd., High Prairie; New Sarepta Dairy, Ltd., New Sarepta; Ryley Creamery, Ltd., Ryley; Tofield Creamery, Ltd., Tofield.

Creameries in Alberta.

Located at	Proprietors and Head Office.
Alix.....	Central Alberta Dairy Pool, Alix.
Athabasca	Athabasca Creamery, Athabasca.
Barrhead	Barrhead Creamery, Barrhead.
Bashaw	Bashaw Creamery & Milling Co., Ltd., Bashaw.
Bassano	W. A. Brodie, Bassano.
Bonnyville	Bonnyville Creamery, Ltd., Bonnyville.
Calgary	Swift Canadian Co., Ltd., Calgary.
"	Central Creameries, Ltd., Calgary.
"	Campbell & Griffin Co., Ltd., Calgary.
"	Burns & Co., Ltd., Calgary.
"	Southern Alberta Dairy Pool, Calgary.
Cardston	Cardston Creamery Association, Cardston.
Castor	Castor Creamery, Ltd., Castor.
Claresholm	T. L. Bernard, Claresholm.
Clive	Clive Creamery, Clive.
Cochrane	Cochrane Creamery Association, Cochrane.
Coronation	Coronation Creamery, Ltd., Coronation.
Delburne	Delburne Creamery, Ltd., Delburne.
Didsbury	Crystal Dairy, Ltd., Calgary.
Derwent	A. Millar, Derwent.
Donalda	Donalda Creamery, Donalda.
Edmonton	Northern Alberta Dairy Pool, Edmonton.
"	Burns & Co., Ltd., Edmonton.
"	Woodland Dairy, Ltd., Edmonton.
"	Swift Canadian Co., Ltd., Edmonton.
"	South Edmonton Creamery Co., Edmonton.
"	Jasper Dairy, Ltd., Edmonton.
Edberg	Edberg Creamery, Ltd., Edberg.
Elnora	Elnora Creamery, Elnora.
Hanna	Hanna Creamery, Ltd., Hanna.
High River	High River Creamery, High River.
Innisfail	Innisfail Creamery, Ltd., Innisfail.
Innisfail	Richfiels Creamery, Innisfail.
Lacombe	Lacombe Creamery Co., Lacombe.
Lac La Biche	Lac La Biche Creamery, Lac La Biche.
Lethbridge	Crystal Dairy, Ltd., Lethbridge.
Lethbridge	City Dairy, Lethbridge.
Markerville	D. Morkeberg, Markerville.
Macleod	Crystal Dairy, Ltd., Macleod.
Medicine Hat	Crystal Dairy, Ltd., Medicine Hat.
Onoway	Onoway Creamery Association, Onoway.
Ponoka	Fertile Valley Creamery, Ltd., Ponoka.
Red Deer	Red Deer Creamery, Red Deer.
Red Deer	United Dairies, Ltd., Red Deer.
Sedgewick	Sedgewick Co-op. Creamery Association, Sedgewick.
Strathmore	C.P.R. Demonstration Farm, Strathmore.
Valhalla	Valhalla Co-op. Creamery Association, Valhalla.
Viking	Viking Co-op. Creamery Association, Viking.
Vilna	S. Dykstra, Vilna.
Wetaskiwin	Wetaskiwin Dairy Pool, Wetaskiwin.
Spondon	Spondon Creamery, Box 109, Coronation.
Peace River	Peace River Creamery Co., Peace River.

GRADING AND GRADES OF CREAM

The following table shows the quantity of butter fat in cream reported by creameries of the Province for the year and the corresponding figures for 1929. The classification by percentages is also shown, based upon the official grade standards established under the provisions of The Dairymen's Act:

DEPARTMENT OF AGRICULTURE

AVERAGE TESTS AND GRADES OF CREAM

	1930 Pounds	%	1929 Pounds	%
Cream Received	45,469,582	.....	41,277,792	.....
Average Test .....	.....	33.4	.....	33.0
Butterfat:				
Table Grade	483,550	3.2	427,164	3.1
I.C Sp. Grade	300,700	2.0	27,991	.2
Special Grade	6,371,144	41.9	5,946,121	43.6
First Grade	6,977,793	45.9	6,474,988	47.5
Second Grade	999,111	6.6	743,616	5.4
Off Grade	54,968	.4	24,194	.2
Total	15,187,266	100.0	13,644,074	100.0

It will be seen from the foregoing total that the butterfat supply for the year was 11.3 per cent. greater than that of 1929. The percentage increase, by months, was 3.3 for January, for February 2.7, March 8.8, April 3.2, May 15.4, June 1.4, July 4.9, August 12.6, September 14.2, October 12.4, November 40.0, and December 61.8.

The somewhat unusually large increase in the cream supply during the latter months of the year was due largely to the more liberal grain feeding of the dairy cows and an extension of the milking period since the price of dairy products had been maintained at a relatively higher level than that of grain.

The Provincial Cream Grading Service was continued during the year, though with a smaller number of men, stationed at creamery points which are generally recognized to be of a more or less competitive character. These creameries, twenty in number, received 42 per cent. of the butterfat shown in the foregoing table. The grading and testing of cream at the other 72 creameries, handling 58 per cent. of the butterfat, was done by men employed by the operators, and who had qualified for grader's and tester's license under The Dairymen's Act. The whole cream grading work was supervised by the Department as in former years.

ANALYTICAL SERVICE.

A total of 3,442 samples of dairy products and well-waters were examined during the year and reported upon by the Dairy Bacteriologist, Mr. J. B. Linneboe, for bacteriological condition and composition. The analytical work was done for the greater part of the year in the laboratory that had been courteously placed at the disposal of the Department by the Faculty of Medicine, University of Alberta. At the beginning of December, however, the work was transferred to one of the laboratories of the Department of Dairying.

The major part of the analytical service consists in determining the yeast and mould count of representative samples of creamery butter, taken at intervals throughout the season and in a specified manner, from finished packages. Mr. Linneboe analyzed 2,799 such samples, from 86 creameries, and the results were promptly reported to the operators of the creameries concerned. As the yeast and mould count is now generally accepted as a measure of sanitary conditions and methods employed in the manufacture and packing of butter at the creameries, the following table shows that decided progress is being made from year to year in those matters. The

figures in the right-hand column represent the average count for all the samples analyzed during each year:

Year.	Samples Analyzed.	Average Count.
1925	686	8400
1926	1213	3781
1927	2685	2908
1928	2801	2314
1929	3503	1395
1930	2799	644

Forty-two samples of well-waters were received from dairy factories located in different parts of the Province, for bacteriological examination and report. Recommendations were made for the treatment of defective waters so as to render them comparatively satisfactory for use with dairy products.

Aside from the analytical work, of a more or less routine character as already referred to, composition tests were made of a number of samples of milk and cheese, and of butter entered in exhibition and dairy convention contests. Bacteriological surveys were also made of milk distributing plants and creameries for the purpose of finding ways and means of reducing bacterial counts in the commercial product.

On the whole, the Department's dairy analytical service has won the confidence and high appreciation of our dairy factory operators, for whose benefit it was primarily set up, and who showed their appreciation in the very practical form of improving sanitation of premises and equipment and the use of approved methods in the processing and handling of their products, to the end that they may reach the market in the best possible condition.

STATISTICAL DATA.

The following tables show, at a glance, some of the outstanding features of Alberta's dairy development for a term of years:

DAIRY STATISTICS, ALBERTA

MILCH COWS

Year.	Cows.	Year.	Cows.
1901	46,101	1920	305,607
1906	101,245	1921	423,838
1911	147,687	1922	392,037
1912	157,922	1923	410,242
1913	168,376	1924	433,528
1914	179,068	1925	460,722
1915	183,974	1926	436,500
1916	277,324	1927	380,000
1917	325,861	1928	344,495
1918	328,702	1929	345,566
1919	336,596	1930	348,297

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	\$ 546,476	1922	\$22,950,000
1910	7,855,761	1923	22,975,000
1915	15,895,586	1924	23,208,562
1916	18,466,311	1925	23,002,000
1917	24,794,597	1926	21,820,000
1918	27,500,000	1927	20,750,000
1919	31,625,000	1928	20,350,000
1920	34,000,000	1929	20,750,000
1921	25,500,000	1930	18,676,500

DEPARTMENT OF AGRICULTURE

CREAMERY BUTTER PRODUCTION

Year.	Creameries.Lbs. of Butter.		Selling Value.	
			(cents per lb.)	
1912	53	3,010,755	\$ 823,500	(27.352)
1913	49	4,115,537	1,090,475	(26.496)
1914	46	5,444,806	1,417,000	(26.025)
1915	57	7,544,148	2,021,448	(26.795)
1916	57	8,521,784	2,619,248	(30.736)
1917	66	8,944,171	3,414,541	(38.176)
1918	56	9,053,237	4,025,851	(44.469)
1919	53	11,822,890	6,132,739	(51.87)
1920	53	11,821,291	6,555,509	(55.45)
1921	41	13,048,493	4,543,007	(34.82)
1922	51	15,417,070	5,126,848	(33.25)
1923	75	17,868,853	5,891,186	(32.97)
1924	89	22,339,857	7,059,630	(31.6)
1925	99	19,630,101	6,959,059	(35.45)
1926	99	19,912,466	6,568,280	(32.96)
1927	100	16,179,712	5,765,347	(35.63)
1928	100	14,375,636	5,374,456	(37.38)
1929	95	16,004,463	5,825,247	(36.39)
1930	92	17,716,744	4,968,227	(28.04)

FACTORY CHEESE PRODUCTION

Year.	Factories. Lbs. of Cheese		Selling Value.	
			(cents per lb.)	
1912	6	40,000	\$ 5,600	(14.00)
1913	7	70,716	5,900	(14.00)
1914	5	70,581	10,590	(15.00)
1915	13	381,832	68,441	(17.93)
1916	15	745,122	154,453	(20.73)
1917	20	1,274,905	280,185	(21.97)
1918	11	552,834	130,911	(23.68)
1919	10	520,530	145,161	(27.9)
1920	7	398,750	110,355	(27.7)
1921	10	930,660	200,478	(21.54)
1922	14	931,992	183,860	(19.73)
1923	13	1,865,608	368,771	(19.77)
1924	12	1,714,790	278,478	(16.24)
1925	14	1,473,835	306,604	(20.8)
1926	15	1,449,983	275,107	(19.0)
1927	12	848,511	170,690	(20.12)
1928	9	722,048	158,404	(21.94)
1929	10	1,001,475	198,047	(19.78)
1930	8	1,035,352	175,392	(16.94)

Respectfully submitted,

C. P. MARKER,

Dairy Commissioner.

Report of the Livestock Commissioner

(S. G. CARLYLE)

The year 1930 has been rather an anxious one for the farmers and ranchers of this Province. On account of the large drought area, which affected practically the whole of Central Alberta, and the subsequent shortage of feed, a large number of cattle were shipped to market in the fall of 1929, some farmers even decreasing their breeding stock. The prices, on the whole, for all classes of stock were fairly satisfactory, and for cattle and hogs they were exceptionally high, especially during the months of March, April, May and June.

All classes of stock wintered well and came through with very few losses. Fewer cattle were fed in feed lots than usual on account of the shortage and high price of feed in the fall of 1929 and early part of 1930.

HORSES.

There was a good demand for horses in the early part of the season, and at the annual horse sales held at High River, Red Deer and Lacombe there was a strong demand from the east, several buyers from the eastern provinces being present, and most of the sales were knocked down to them at very satisfactory prices. Later in the season, however, the demand decreased and towards the close of the year, owing to the financial depression, prices were very low. Fewer horses were shipped out of the Province this year than in former years. This may be due to two reasons—first, that the supply may be beginning to run short, and second, that quite a large number of horses have been bought by the farmers of Alberta, as a great many of them feel that with the low price of wheat and the high price of gasoline and oil, more horses will have to be used. If this condition prevails for any length of time, it would seem that there will soon be a demand for some good breeding stock, as there is a great scarcity of sires in the Province at the present time. On a great many of the mixed farms there is a strong tendency to swing back to horse-power.

There has been a good demand for light horses, especially of the hunter type, and increased interest is being taken in the breeding of these horses. In the spring of 1930 three new breeding clubs were organized in the northern part of the Province, and suitable thoroughbred horses were secured, one standing at Lacombe, one at Edmonton, and one at Vermilion. In the fall of 1930 the Edmonton Club was presented with the services of "Will Summers," owned by His Majesty the King. This has given the club a great impetus, and a great deal of interest is being taken in the breeding of this class of stock.

CATTLE.

There was a marked decrease in the number of cattle marketed through the Edmonton and Calgary stock yards during the past year. In Calgary 24,312 fewer cattle were marketed than in 1929, the total number of cattle sales being 47,623 as compared with 71,935 in 1929. In Edmonton there was a decrease of 24,965 in numbers, and a decrease in value of \$2,781,563. The total number of cows and calves marketed in Edmonton Stock Yards during the past year was 46,223.

In the early part of the season prices were very satisfactory, in fact better than for some years, and this continued up until the latter part of June when, owing principally to the tariff being raised by the United States, a slump occurred and a decline of \$1.00 to \$1.50 was in evidence. This decline continued until about the middle of July, when there was a serious drop of from \$2.00 to \$2.50 per hundred, and from that time on the prices were fairly even until the end of the year. In April and May prices reached 11 cents per pound for baby beef and top steers.

During the summer months the cattlemen were very much concerned about a market for their surplus stock, but through the assistance of the Federal Government in organizing shipments and in securing lower ocean rates, some 6,000 head of steers from the ranches of Alberta and Western Saskatchewan were shipped to the British market. With this number taken out of the country it relieved the situation to such an extent that there was no slump in prices in the fall of the year. While the ranchers did not realize high prices in the Old Country, the effect it had on the home market and the prices received for the balance of the cattle they had to sell made the shipments well worth while.

As mentioned last year, some of the large ranchers in the southern part of the Province put their calf crop out on shares with farmers in the irrigated districts for feeding through the winter months, where they could be finished and sold as baby beef in the spring. Some 800 calves were placed out in this way in lots of from 25 to 150 each, and this experiment proved very successful. The Department of Agriculture placed an experienced man at the disposal of these farmers to give advice in the feeding and caring of these calves, and the result of the experiment has been very satisfactory to both farmers and ranchers. In the fall of 1930 more than double this number of calves were placed out again, and we hope the same results will be obtained.

A larger number of cattle were put out on feed in the Province this past fall than ever before. It is estimated that in the Edmonton, Calgary, and Lethbridge districts over 10,000 head are in the feed lots, besides a few head fed by farmers here and there throughout the Province. There will probably be a total of over 12,000 head fed in the Province altogether.

At the various bull sales satisfactory prices were received for the good bulls coming into the ring in good condition. For the poorer type and thin bulls, rather low prices were received.

The following is a summary of these sales:

1930 EDMONTON BULL SALE.

Breed.	No. Sold	Average Price.
Shorthorn	79	\$138.61
Aberdeen Angus	6	140.00
Hereford	5	111.00
Red Polled	1	75.00
Holstein	3	110.00
Ayrshire	1	60.00
Total and General Average	95	\$134.84

1930 CALGARY BULL SALE.

Breed.	No. Sold	Average Price.
Aberdeen Angus	49	\$177.45
Red Polled	4	77.50
Holsteins	2	70.00
Ayrshire	1	60.00
Herefords	218	304.56
Shorthorns	257	155.15
Total and General Average.....	531	\$217.47

1930 EDMONTON SHEEP SALE.

Breed.	No. Sold	Average Price.
Shropshire Rams	7	\$ 21.14
Suffolk Rams	15	25.53
Hampshire Rams	28	23.02
Oxford Rams	49	24.01
Total and General Average.....	99	\$ 23.76

1930 CALGARY SHEEP SALE.

Breed.	No. Sold	Average Price.
Suffolk Rams	47	\$ 28.45
Hampshire Rams	35	36.22
Oxford Rams	105	19.91
Shropshire Rams	59	15.22
Cheviot Rams	5	41.70
Southdown Rams	1	35.00
Rambouillet Rams	2	45.00
Total and General Average	254	\$ 23.33

DAIRY CATTLE.

A good demand for dairy cattle has continued throughout the whole year. A large number of farmers, who have disposed of their stock in the past and gone into grain growing, are now anxious to get a few head of dairy cows to help them tide over the period of depression. While the price of butterfat and fluid milk has dropped, the demand for good dairy cows still continues to be quite strong, though in the latter part of the year somewhat lower prices were experienced. There has been a strong inquiry for the dual purpose type, the majority of farmers favoring feeding a few head of beef as well as milking a few cows.

SHEEP.

Sheep came through the winter well, and very few losses were reported. Generally speaking, there was a good lamb crop and the season was favorable throughout the summer. The price, however, in common with most other farm products, took a serious drop and top lambs were selling in the fall of 1930 at an average price of around 6½ cents, as against 10 cents per pound at the beginning of the year.

More lambs were put on feed in the fall of 1930 than perhaps in any year previous, especially in the Edmonton district, and it is expected that the lamb-feeding business around this market will develop and assume considerable proportions in the future.

The small flocks on the farms did well, and notwithstanding low prices, more farmers are getting a few sheep every year.

While there has been a considerable discussion over the tariff and the bringing in of New Zealand and Australian mutton, it is expected that this will soon be remedied, and the sheepmen look forward to the price of lamb and mutton being as satisfactory as other farm commodities. The price of wool has been very low and the immediate future does not look any too bright. The price of breeding stock has been brought to low levels, and good young ewes could be bought at from \$6 to \$7 per head, older ewes from \$3 up, depending upon age and quality. At the ram sales held in Calgary and Edmonton fair prices were received, so that, on the whole, the sheep business is in a satisfactory condition.

Hogs.

Owing to the crop failure in the central part of Alberta, fewer sows were bred in the fall of 1929 than for the past few years. This, of course, resulted in lighter market receipts during the year 1930. There were some 14,000 less hogs sold on the Calgary yards and over 39,000 less on the Edmonton yards than in the year previous. Prices, however, were especially good, better than for any other class of stock, and ranged from \$12.25 per hundred in February down to \$8.70 per hundred in December. There has been a shortage of hogs in Canada, and they were practically all used for home consumption, only very light exports being made. There were very good spring litters, and no great losses among young pigs were reported. The quality is steadily improving, and more bacon type boars are being used each year.

Due to the slump in grain prices in the fall of 1930, a large number of farmers are going into the hog business, and in some districts in the Province there will be a 300 per cent. increase. Taking the Province as a whole, there will probably be a 100 per cent. increase in sows bred over the previous year. Practically all the good gilts in certain districts were retained for breeding purposes, and in addition to this, the Dominion Government Live Stock Branch purchased practically all the good breeding gilts coming into the yards and shipped them back to the farmers at cost price. Good breeding boars were hard to obtain, and in some districts boars were used which were of rather low quality, but this was done on account of not being able to secure a better type.

Alberta is especially adapted for the development of swine, especially the northern half of the Province, where barley and oats can be easily raised, and it is hoped that the farmers will now go into the hog business in a permanent way.

Report of Boys and Girls' Livestock Clubs

(G. S. BLACK, *Supervisor*)

Nineteen hundred and thirty was a banner year for junior livestock clubs. A very active interest was shown in all phases of this kind of work in Alberta. This livestock project included swine, dairy, beef, and sheep clubs. Judging competitions were held for the first time in conjunction with the Edmonton and Calgary exhibitions, and some thirty-eight boys and girls took part in the dairy judging and demonstration contest held in January of last year. All these activities were keenly contested and instructional work given. Practically all of our junior livestock clubs are supervised by our district agriculturists. Many farmers, service clubs, and agricultural societies assisted in different ways at this work.

New swine clubs were organized in the Waskatenau, Westlock, Taber and Liberty districts. A large increase in the membership of all clubs was noted this year. The majority of the clubs now operating are in a very healthy condition. Over two hundred gilts were returned to the country as compared with some thirty-five the year previous. Undoubtedly the low price of grain and the good price of hogs was a factor in this case. The quality of the swine club hogs is steadily improving. Swine clubs marketed over one thousand hogs which graded thirty per cent. selects, while the average of our Province is about six per cent. More hogs are being marketed within the required weights each year, which means a greater financial return to each shipper.

Ninety boys and girls from twenty-four districts competed at the Annual Central Competition at Edmonton early in November. A two-day course of instruction and judging work was held. This included inspection trips to the stock yards, packing, dairy and publishing plants. The Willingdon team, coached by W. Pid-ruchney and composed of Wm. Strynadka and John Lazaruk, won the C.P.R. trophy for Alberta. Robert Wyllie and Wm. Schmidt, winners of the Canadian National trophy, were chosen to represent this Province in the Dominion contest at Toronto. These boys later became provincial champions for the Dominion of Canada. Mr. F. H. Newcombe, of Vegreville, was their successful coach.

Calf clubs were organized and fairs held at Olds, Onoway, Camrose, and Telfordville. These clubs aim to improve the livestock in a similar manner to swine clubs. Judging contests are held and instructional work in feed, care, and management given. A team from each of these clubs met in competition early in November, and Mr. Howe's team of two boys, representing the Camrose Club, Borden and Vernon McNeight, were the winners. These boys, representing Alberta at the Toronto Royal Show, were successful in winning the Dr. Black trophy, emblematic of the provincial championship. This is the first time that both the swine and calf club trophies have been won by the same province.

Sheep clubs were operated at Youngstown, Warden and Magrath. A new club at Camrose purchased a car-load of well-bred Oxford ewes at the Lacombe Sheep Sale. Good results are anticipated from this type of livestock. An increased membership is noted in all sheep clubs.

A Junior Farmers' Camp, held at both the Edmonton and Calgary Summer Shows, was very well attended. Fifty-eight young men, between the ages of seventeen and nineteen, took part in a two-day competition. Instructional work was given in judging livestock, grains, and grasses. Excellent co-operation was shown by the two fair boards, and one day of the contest was devoted entirely to the inspection of the high-class livestock exhibited there. The Department of Agriculture offered a scholarship valued at \$50.00 to the winner at each camp. Camrose Agricultural Society also held a judging camp, and instructional work of a similar nature was given at the Lloydminster Fair.

The greatest value of livestock clubs is undoubtedly in the educational training of the boy and girl member. This training creates a desire for higher quality livestock. The policy of the Department of Agriculture has been to only organize clubs where complete supervision can be given. This involves a large amount of work, and the number of clubs which can be organized each year will depend entirely on the amount of time available for club work by our field men.

Able work was done by W. D. Gentleman, St. Paul, and J. W. Howe, Camrose, in their respective districts. Much of their time was devoted to securing better livestock. Appreciation is expressed of the splendid co-operation and assistance by the members of the Dominion Livestock Branch.

Report of the Supervisor of School Fairs

(G. S. BLACK)

The past year has been the largest and best in the history of school fairs. One hundred and thirty-five school fairs were held, and a very noticeable improvement was apparent in the quality and number of exhibits. The attendance of adults has been much larger and the interest keener in ninety per cent. of the fairs held this year, several districts having over three thousand entries and over one thousand adults in attendance.

School fairs were originally intended as one-day exhibitions of children's work. Many have grown so large and now embrace so many activities that they have to have two-day fairs. At a two-day fair all exhibits except livestock are judged the first day, the children remaining at school. On the second day livestock judging, parades and sports are held. Evening programmes consist of oratorical contests, spelling bees, or singing contests. Often large community festivals develop from these educational efforts of the school fairs.

Splendid co-operation exists with the Department of Education. The Department of Agriculture has charge of all school fairs, but relies upon the excellent assistance of the teachers, inspectors and other officials of the Department of Education.

The increased enrolment is shown in the much larger demands for garden and flower seeds, mounting cards, insect pins and other accessories, the total cost of seeds being in excess of \$6,000.

One hundred and twenty boys and girls at the four Provincial Schools of Agriculture had an instructive short course week during the month of July. The eight full term winners are in most cases now in attendance at Raymond, Claresholm, Vermilion or Olds. Excellent weather at nearly all the fairs was conducive to larger attendance.

The following is a brief summary of the year's activities:

	Fairs.	Schools.	Entries.
Claresholm	24	234	24,655
Sedgewick	9	91	9,358
Raymond	20	200	13,807
Olds	39	447	43,660
Vermilion	43	471	47,505
	135	1,443	138,985

The men in charge of school fairs are free from duties at their respective schools for a period of five months each year. This period of time is devoted to organization and instructional work, which is giving splendid educational results.

Report of Superintendent of Fairs

(S. G. CARLYLE)

In common with practically every other enterprise of the past year, a large number of agricultural fairs have found it difficult to show a surplus, and what is surprising, the large fairs, consisting of Classes A and B and the larger of the Class C fairs, have shown a deficit.

These fairs, in the past, have usually broken even, and some of them have shown quite a surplus. At last year's convention the amalgamation of some of the smaller fairs into larger ones was recommended, believing that much more successful exhibitions could be built up financially and that it would also encourage a better class of exhibits to be brought out.

It is somewhat singular that the same number of fairs were held in 1930 as there were in 1929, although some of the societies which had dropped out in 1929 operated in 1930 and vice versa.

At the 1930 convention 63 fair dates were allotted and 5 were cancelled. In 1929, 69 dates were allotted and 11 were cancelled. Of the 58 fairs held this year, we have to date received returns from 46. Of these 46, 26 have shown a slight surplus and 20 report a deficit. This is rather an alarming situation, especially when it is considered that even in the case of the fairs having surpluses, these surpluses are so small that there is practically nothing left to carry on next year's work.

The present is a most critical time in the history of these associations, and the future depends largely on how the problem is dealt with at the present time. If there was a need for agricultural societies to function in the past, that need is just as great, or perhaps even greater, today, because there never was a time in the past when the quality of farm products counted for as much as it does today and will in the immediate future, if we are to secure a place in the markets of the world.

The agricultural society, if it is to be of any practical or educational use, must encourage the improvement of farm products, and especially that of live stock. It is in the judging ring that the types of the various breeds of livestock are set. This is where boys and young men get their first impressions and often the inspiration for acquiring good stock. Eliminate the show rings of this country, and I believe that it would be but a very short time until a great deterioration would take place in the quality of our farm animals.

While the fairs, financially, were not as successful as we would like to see, it is encouraging to note by the reports received, an improvement in the number and quality of exhibits at all the fairs with the exception of two or three. This indicates that greater interest is being taken; that more stock is brought out to the fairs

and that it is better fitted. A considerable amount of this success is due to the boys and girls' exhibits, and more encouragement should be given to the young people to bring out exhibits.

The following is a list of other competitions fostered by agricultural societies during the year 1930:

- 16 Standing Field Crops and Good Farms Competitions,
- 16 Combined Field Crops and Cleaned Seed Competitions,
- 13 Junior Competitions,
- 23 Seed Fairs, and
- 11 Poultry Shows.

Report of Extension Work

(S. G. CARLYLE)

The extension work in this Province is carried on largely through the district agriculturists. At the beginning of the year eight of these men were in the employ of the Government, stationed at the following places: Grande Prairie, Medicine Hat, Lethbridge, Hanna, Sedgewick, Vegreville and Willingdon.

The representatives at Lethbridge and Willingdon each had an assistant, but during the year one of the representatives at Vegreville was removed to the Willingdon district with an office in the village of Willingdon. During the year Mr. Judson, who was at Grande Prairie, resigned to take a position in Manitoba. Mr. Gray, who was stationed at Hanna, resigned to take the position of Field Crops Commissioner of the Province, and Mr. Murray, of Medicine Hat, resigned to take the principalship of the Olds Agricultural School. In the early part of the year Mr. E. G. Wood was engaged to fill Mr. Gray's place at Hanna. Mr. W. J. Thomson has just been engaged to fill Mr. Judson's place at Grande Prairie.

In addition to the work done by the district agriculturists, two, three and four-day short courses were successfully held at the following places: Willingdon, Vegreville, Killam, Namaka, Camrose, Bonnyville, Brooks, Duchess, Ranier, High River, Manola, Chauvin and Athabasca, and assistance was given to one at the Dominion Experimental Farm, Lethbridge. These meetings were well attended, and a splendid interest was shown.

Report of the Brand Recorder

(S. G. CARLYLE)

During the year 1930, 275 horse brands and 609 cattle brands were issued to new owners, 102 transfers were made, and 9 owners were given permission to change the character of their brands.

Two thousand four hundred and fifty-four brands were renewed during the year, and 5,101 stray animals were dealt with.

The total number of brands issued to date are as follows: 38,668 horse brands and 58,163 cattle brands, making a total of 96,831 registered brands in the Province.

Report of the Field Crops Commissioner

(E. L. GRAY)

The work of the Field Crops Branch in 1930 consisted of seed and field crop improvement, the control and eradication of weeds, the conducting of field trials with phosphatic fertilizers, and a special programme for creating more interest among Alberta farmers in the great grain exhibitions of the continent, particularly the World's Grain Exhibition and Conference, Regina, 1932.

SEED AND FIELD CROP IMPROVEMENT.

Fifty-four senior field competitions were organized during the season. This number was made up of 22 with wheat, 11 with oats, 2 with barley, 1 with alfalfa, 5 with good farms, 1 with good farm homes, 1 with sugar beets, 1 with tree shelter belts, and 10 combined field crop and cleaned seed wheat contests. They enlisted a total of 659 competitors, in the following districts: Claresholm, Calgary, Byemore, Morrin, Okotoks, Athabasca, Stavely, Wetaskiwin, Lacombe, Lloydminster, Red Deer, Stettler, Sullivan Lake, Gleichen, Brooks, Lethbridge, Grande Prairie, Norton, Sedgewick, Bindloss, Whitla, Wembley, Youngstown, Hanna, Craigmyle and Scapa.

Eighteen junior field crop competitions were also organized. One in oats was sponsored by the Peace River Seed Growers' Association at Grande Prairie. The Red Deer Board of Trade and the Morrin Seed Growers' Association held competitions in wheat in the districts served by them. Five sugar beet contests were organized by the Canadian Sugar Factory, Limited, and the Alberta Sugar Beet Growers' Association in the irrigated districts adjacent to Lethbridge. The Alberta Wheat Pool co-operated by furnishing seed and donating part of the prize money, in forming 10 contests with registered wheat at Lethbridge, Naco, Balzac, Huxley, Consort, Camrose, Wetaskiwin, Vermilion, Athabasca and Rossington. The total number of boys and girls participating in these contests was 460, bringing the total of junior competitors in all contests to 544.

During the spring and autumn months the following district seed fairs were held: Medicine Hat, Lethbridge, Balzac, Hanna, Sedalia, Consort, Vermilion, Lousana, Huxley, Lacombe, Wetaskiwin, Camrose, Leduc, Morrin, Busby, Grande Prairie, Sedgewick, Athabasca, Westlock, Olds, Wembley, Lloydminster and Strathcona.

The seed fair part of the programme was brought to a close by the Provincial Seed Fair held just after the end of the year in Edmonton, January 13-14-15-16, 1931. Several new features were incorporated in the arrangement of this fair. It was held for the first time in conjunction with the Annual Agricultural Short Course of the University of Alberta. Classes were opened for new

exhibitors, namely, those who had not won senior prizes at any Provincial Seed Fair within the past ten years. A special class was opened for ten-bushel exhibits of seed wheat. Approximately 600 entries were made, 470 exhibits being put in place. Out of prize money offered of approximately \$2,500, a total of \$2,024 was awarded.

The Branch maintained a registered seed department throughout the year for the benefit of the producers of improved seed. It worked in co-operation with the Alberta Seed Growers' Association, which organization completed its eighth year as a growers' agency on May 31, 1930. Its 1930 executive consisted of: Jos. H. B. Smith, Hon. Vice-President; A. C. B. Grenville, President; D. H. Galbraith, Vice-President; E. L. Gray, Managing Director; Clyde C. Gillies, Don. H. Bark, H. G. L. Strange, Directors; E. H. Buckingham, Secretary.

A seed cleaning plant was operated during the early months of the year in Edmonton for the benefit of members of the Alberta Seed Growers' Association. The following quantities of grain were received, cleaned and prepared for sale:

Registered Marquis Wheat	12,343 bus.
Registered Banner Oats	6,080 bus.
Registered Victory Oats	11,784 bus.
Certified Reward Wheat	3,455 bus.
Total	33,662 bus.

In addition to the central cleaning plant the Branch operated five portable cleaners in other districts of the Province. The location of these and the approximate amount of seed cleaned by each was as follows:

Vegreville	10,565 bus.
Lacombe	5,980 bus.
Raymond	10,411 bus.
North Edmonton	3,149 bus.
Grande Prairie	12,575 bus.
Total.....	42,670 bus.

CONTROL AND ERADICATION OF WEEDS.

The weed control programme of the Province is ratified by an Advisory Weed Board appointed by the Minister of Agriculture. Its members represent the principal organizations directly interested in the agricultural problems of Alberta. The Board in 1930 consisted of: H. A. Craig, Chairman; R. B. Matheson, Edmonton; Geo. Bennett, Manville; H. E. G. H. Scholefield, Calgary; Don. H. Bark, Brooks; Clyde C. Gillies, Strathcona; Frank Reed, Lacombe; H. W. Bright, Macleod; E. L. Gray, Secretary.

A short course for instruction in the identification and control of weeds was held at the University of Alberta, Edmonton, February 17-18-19-20-21, 1930. The object of this course was not only to train men for positions as weed inspectors, but also to disseminate weed information to municipal councillors and to all others who found it possible to attend the course. The total attendance was 130. The Dominion Department of Agriculture and the University of Alberta co-operated with the Field Crops Branch in supplying lecturers. Seventy-six men received interim weed inspectors' certificates.

During the spring season, 98 permanent certificates were issued to men who had attended the short course in 1929.

The field organization for the year was put into effect on May 15, 1930. The Province was divided into 16 districts. Field Supervisors were appointed to take charge of each of these. The district centres, with the men appointed, were as follows: Medicine Hat, R. E. English; Lethbridge, W. R. Gilks; Claresholm, J. P. Lawrie; Brooks, Geo. A. Ingram; Calgary, W. G. Lawrie; Hanna, J. H. Irving; Coronation, R. J. Milligan; Red Deer, Frank Pepper; Wainwright, P. D. Huxley; Leduc, B. J. Whitney; St. Paul, Carl Demers; Smoky Lake, J. D. Foster; Grande Prairie, W. E. Tatton; Westlock, C. F. Bentley; Edmonton East, Frank Stevens; Edmonton West, Don Cameron and E. C. Hallman.

In addition to the appointment of field supervisors, the Field Crops Branch controlled the weed inspection work of 135 Local Improvement Districts. Twenty-eight inspectors were appointed in these.

Special investigational work in the control of weeds by the use of chemical weed destroyers was carried on in the vicinity of the Raymond School of Agriculture, Mr. W. G. Smith having the work in charge. An arrangement was entered into early in the season with the sub-committee on weed control of the National Research Council that the major portion of this work be conducted with pure chemicals. In the programme outlined experiments were carried on with 7 chemicals for the control of annual weeds and 6 chemicals for the control of perennials. In addition to the work with pure chemicals, tests were made of the effectiveness of the commercial weed killers offered for sale by various companies in the Province.

The field supervisors, in co-operation with the National Research Council, conducted a weed survey of the greater portion of the Province. Report cards as to weed infestation were completed on the townships on which it was possible to obtain definite information. A total of 1,100 cards were filed, and will serve as a source of information and as a guide in future work.

A steady programme of education was maintained throughout the entire season. No special features such as weed weeks or provincial weed conferences were organized. Meetings were held at many local points, arrangements being in charge of local inspectors. Special weed display booths were prepared at the Class A fairs and at most of the Class B fairs. About 400 copies of the Weed Bulletin No. 3 were distributed. Two hundred sets of weed posters were also distributed. Advertisements in connection with weed control were carried in the agricultural press of the Province during the spring season. A special effort was made to increase interest in weed control among the boys and girls of the Province. A special grant was made to school fair organizations to increase the first, second and third prizes by \$1, 75c and 25c respectively. A further grant was made to increase the first, second and third prizes at the Provincial Seed Fair by \$10, \$6, and \$4 respectively. A cup was donated for the best weed collection exhibited at the Provincial Seed Fair.

FERTILIZER FIELD TRIALS.

The programme of conducting field trials with phosphatic fertilizers which was carried on in 1928 and 1929 was organized on a much larger scale in 1930. Co-operators were secured in 14 districts in order to make observations of the effect of the fertilizer on all the principal soil types of the Province. More up-to-date equipment was supplied than in the previous year, and the work throughout the entire season was very closely supervised. Four hundred and one farmers conducted trials with the fertilizers on grains; 46 conducted trials with it on sugar beets. Complete information on the effect of the phosphates was secured and was made available in printed report form to those farmers interested in securing it. The districts in which the trials were conducted, and the number of co-operators at each, were as follows:

Raymond	94	South Edmonton	14
Lethbridge	13	Athabasca	26
Clareholm	27	Vermilion	47
Vulcan	22	Sedgewick	40
Morrin	28	Grande Prairie	29
Strathmore	29	Lacombe	25
Olds	35		
Brooks	18	Total.....	447

GRAIN EXHIBITIONS PROGRAMME.

Early in 1930 the Minister of Agriculture appointed a committee representing the various interests of the Province to have charge of the work of creating general public interest in the World's Grain Exhibition and Conference, Regina, 1932. This committee met on March 17, 1930, and named from its members an executive of three to have direct charge of the Alberta programme. This executive consisted of: Dr. O. S. Aamodt, University of Alberta; Mr. Clyde C. Gillies, representing the farmers of Alberta; Mr. E. L. Gray, Committee Chairman. It met from time to time throughout the year, and arranged a programme to create interest among Alberta exhibitors in the more important exhibitions of the continent.

In April the Branch secured 5,000 copies of the University of Alberta Bulletin No. 6, "The Production and Preparation of Seed for Exhibition", and distributed them to all farmer organizations in the Province and to those individual farmers whose names appear upon its own mailing list. Following on this distribution a booth was prepared, demonstrating the stages of cleaning and selecting thresher-run grain to exhibition conditions; this booth was sent to as many of the principal fairs of the Province as was possible. A field supervisor was placed in charge to give information to those citizens who visited it. At the close of the summer fairs season this supervisor visited the farms of the competitors in the standing grain competitions of the southern part of the Province and collected samples of the grain threshed from their fields. These samples were brought to Edmonton for inspection by an inspection committee, which selected from them those considered suitable for showing at the larger expositions. One of the samples so selected later secured second prize at the International Hay and Grain Show, Chicago.

During October the Field Crops Branch assembled at Edmonton the exhibits for the Royal Winter Fair, Toronto, and for the International Hay and Grain Show, Chicago. These exhibits were shipped to both expositions at the expense of the Department of Agriculture. An official of the Department attended both cities to look after the exhibits at the time of judging and to arrange for their shipment back to the Province. Fifty-five exhibits were sent to Toronto and secured 29 prizes. Seventy-five were sent to Chicago and secured 27 prizes. Mr. Herman Trelle, Wembley, won the Grand Championship in wheat and in peas at Chicago, with a sample of Reward and Chancellor respectively; Mr. Robt. Cochrane, Grande Prairie, won first in timothy. The Department again gave special premiums to the prize-winners at both shows. At Chicago a special premium of \$150 was given to the winner of a championship and \$100 to the winner of a first prize. At Toronto all prize money won by Alberta exhibitors was duplicated.

The final work of the season was the training of boys and girls in grain judging, with the object of selecting a team to represent the Province in the junior grain judging contest, Regina, 1932. Instruction in judging was given at 16 local seed fairs; a judging contest was held, and the two best judges were selected for further training in Edmonton at the time of the Provincial Seed Fair. Thirty-two boys and girls, together with six from the agricultural schools, were brought to the city by the Department for a two-day course; six were chosen from these for further work in judging next year. The Edmonton Chamber of Commerce co-operated with the Department in bringing these juniors to the capital by providing accommodation for them.

Report of the Game Commissioner

(BENJ. LAWTON)

It is to be regretted that conditions still continue unfavourable for water fowl. The lack of water in the southern half of the Province, due to lack of rainfall as well as drainage schemes, and the clearing of lands for agricultural purposes, has so reduced the feeding grounds for ducks, geese, etc., that the number of these birds nesting in this section of the Province is so few in comparison with years gone by that the outlook is very discouraging.

In the northern half of the Province the conditions above-mentioned do not apply to the same extent. A decrease is reported from some sections, however, but on the whole I am of the opinion that drastic measures should be adopted to assist in saving the ducks and geese from being depleted to such an extent that a close season will be necessary. I am advised that similar conditions exist in the provinces of Manitoba and Saskatchewan, and that as seventy-five per cent. of the ducks of North America are reared in the three prairie provinces, it is desirable that some action should be taken to reduce the annual kill. The United States Government has reduced the bag limit for the whole of the United States to 15 ducks per day and no person to have more than 30 birds in his possession at any one time, and the bag limit is 4 geese per day with not more than 8 birds in possession at any one time.

I would suggest that we shall be well advised to follow this lead, and provide for a shorter open season, which now extends from September 15th to December 15th. The period from November 15th to December 15th is practically a close season, as there is very little hunting of ducks in Alberta during that period. If, therefore, our open season was cut down from September 15th to November 15th this would constitute an open season of two months and an effort could be made to have the treaty with the United States, when it comes up for revision, altered to provide for an open season of two months only.

Upland Game Birds, more particularly sharp-tailed and ruffed grouse and Hungarian partridge.—These birds are reasonably plentiful in districts, the ruffed grouse showing a considerable increase during the past year. The sharp-tailed grouse are spreading, and are now found in sections to the south of the Red Deer river, where sportsmen are asking that an open season be provided for. All of these birds are deserving of protection, as they are of considerable economic value to farming interests.

Big Game.—Mountain goat and mountain sheep are still reasonably plentiful to the south of the Bow River, but are reported as scarce south of this river. It might be well to have a close season in this area for a few years, and a continuance of the close season on moose in the same area be continued until the supply warrants the hunting of these animals. In the forest reserves of the mountains

to the north of the Bow River all classes of game indigenous to this area are fairly plentiful. The elk, which are centralized in the area between the North Saskatchewan and Athabasca rivers, are almost entirely within the forest reserves of the mountains. It is possible that serious consideration should be given to some method whereby old elk of the male species should be reduced in numbers, as these animals have been given a close season since 1910, and the same might apply to antelope in the prairie country to the south of the Red Deer River.

Deer and Moose.—The hunting season of 1929 was decidedly favourable from the standpoint of the hunter. A total of 2,629 deer and 2,434 moose was reported by sportsmen on their licenses as being killed. The total of big game animals taken was 5,410, this being approximately 100 per cent. greater than in previous years for which we have a record. This includes deer, moose, caribou, mountain sheep, mountain goat and bear. This works out at approximately one big game animal for every third hunter.

Fur-bearing Animals.—The catch of fur-producing animals for the season ending June 30th, 1930, shows a decided decrease. For the season of 1928-1929 the total number of pelts was 1,669,562, with a total valuation of \$2,473,191.40. For the season ending June 30th, 1930, the total number of pelts was 770,377, with a total valuation of \$1,183,869.63, being less than one-half the number of pelts and value of the catch for the season ending June 30th, 1929.

The following tables will show the number of the different species of pelts, total value and average value for each pelt produced in Alberta:

ALBERTA FUR PRODUCTION FOR SEASON 1929-1930.

Kind.	No. of Pelts.	Aver. Value of Pelts.	Total Value of Pelts.
Badger	6,063	\$16.00	\$ 97,008.00
Bear	1,208	6.00	7,248.00
Beaver	233	22.00	5,126.00
Prairie Wolf (Coyote)	14,871	15.00	223,065.00
Ermine	182,204	1.00	182,204.00
Fisher	25	60.00	1,500.00
Fox, Blue	36	50.00	1,800.00
Fox, Cross	615	75.00	46,125.00
Fox, Red	1,474	30.00	44,220.00
Fox, Silver	3,396	75.00	254,700.00
Fox, White	9	45.00	405.00
Fox, Kit	23	2.50	57.50
Lynx	1,109	30.00	33,270.00
Marten	1,033	30.00	30,990.00
Mink	2,457	10.00	24,570.00
Muskrat	274,811	.60	164,886.60
Rabbit	91,899	.10	9,189.90
Otter	145	30.00	4,350.00
Raccoon	18	7.00	126.00
Skunk	6,278	2.00	12,556.00
Squirrel	181,049	.15	27,157.35
Timber Wolf	165	15.00	2,475.00
Wolverine	32	20.00	640.00
Caribou	3	5.00	15.00
Deer	21	1.50	31.50
Moose	32	5.00	160.00
Gopher	358	.05	17.90
House Cat	658	.30	197.40
Dog	13	.50	6.50
Marmot	138	.50	69.00
Cougar	1	2.00	2.00
	770,377	.....	\$1,183,869.63

As in former years, a limited number of muskrat and beaver permits have been issued south of the North Saskatchewan River,

the number of these, together with the pelts taken thereunder, being as follows:

Muskrat Permits Issued	514
Muskkrats Reported Taken	23,470
Beaver Permits Issued	51
Beaver Reported Taken	159

The following total will show the revenue obtained from various sources as provided for by The Game Act, a falling off in the amount of revenue from fur tax being the most noticeable, due, as previously stated, to the fact that the production of fur is considerably lower than previous years:

Resident's Bird Licenses	\$20,360.25
Resident's Big Game Licenses.....	13,544.00
Fur Tax	33,644.50
Various Licenses, Sale of Fur, etc.....	22,529.84
Total Game Revenue.....	\$90,078.59

Fur Marketing Service.—The Fur Marketing Service was continued for the season 1929-1930, with the result that there was a total turnover of \$45,455.11, representing 1,642 shipments from 932 shippers. A loss was incurred in connection with the operation of this service, due entirely to the scarcity of fur-producing animals and lower prices.

The Destruction of Crows and Magpies.—Regulations were again adopted for 1930 as in previous years to provide for the payment of prizes to competitors who destroy these pests. It was thought advisable to credit those who killed crows, magpies and gophers, and who destroyed eggs of crows and magpies, with a greater number of points for such trophies as they turned in for credit before July 1st. This evidently had the desired effect—that is, the destroying of a greater number of the above-mentioned pests during the period when they are most destructive to other birds. The result of the competition shows the following:

Crows and Magpies	66,319		
Gophers	505,001		
Crows and Magpies' Eggs	289,960		
The total destroyed by School Children:		The total destroyed by Adults:	
Crows and Magpies	48,843	Crows and Magpies	17,476
Gophers	410,254	Gophers	94,747
Crows and Magpies' Eggs.....	234,961	Crows and Magpies' Eggs.....	54,999

Fur Farming.—The number of fur farms reported shows that 340 persons or companies are carrying on fur-farming operations within the Province. The regulations dealing with this matter provide that reports shall be submitted half-yearly on or before the first days of January and July. These reports show the number of the following animals as being on fur farms in Alberta as at July 1st, 1930:

Silver Fox	13,527	Marten	12
Cross Fox	786	Fisher	6
Red Cross Fox	279	Raccoon	90
Blue Fox	455	Fitch	9
Muskrat	45,510	Rabbit	409
Mink	1,600	Kara. Sheep	168
Badger	152	Coyote	16
Beaver	112	Lynx	3
Skunk	5		

Prairie and Forest Fires.—During 1930 there were a number of serious fires, more particularly outside of the forest reserves and to a great extent in the farming districts. The soil being so dry,

many fires have become established in the ground, and unless extinguished or properly safeguarded are a continual menace. Many farm buildings, also considerable personal property, was destroyed, not only by fires kindled in the ordinary way, but from those burning in the ground being allowed to escape.

Railway Fire Guards.—The railway companies have given splendid co-operation in the matter of prevention of fires, not only by maintaining proper fire guards and keeping the right-of-way clear of inflammable matter, but by also maintaining fire preventative appliances provided for by the regulations of the Board of Railway Commissioners.

Report of the Poultry Commissioner

(G. M. CORMIE)

Egg production in the Province increased about 20 per cent. in 1930 over the previous year.

Statistics indicate that the poultry population increased during the year 27,481 head. On account of the general decline in prices of grain and other agricultural products, greater attention is being paid to poultry as a cash crop. It is interesting to note that in spite of the general decline in prices, egg prices during the year remained normal until December 15th. Owing largely to the unusually mild weather, production in December almost equalled that expected in the spring and summer months. This condition resulted in a local surplus and a rapid decline in prices. At the end of the year Alberta was shipping new-laid winter eggs to the eastern markets in carload lots. With the exception of one car in January, 1929, Alberta has not previously exported winter fresh eggs.

POULTRY RAISING MORE GENERAL.

Each year finds more and more farmers recognizing the poultry flock as an important part of the farm, contributing a regular weekly cash income. An income from this source amounting to \$5.00 or \$6.00 a day is not unusual.

TURKEY IMPROVEMENT.

Great progress has been made during the year in improving the quality of Alberta turkeys through the record of merit policy. This policy consists of the inspection and banding of pure-bred turkeys, and making available a large quantity of the best turkeys in the Province for breeding purposes. Approximately 2,000 birds classified into three grades known as A, B, and C, were inspected and individually identified by competent inspectors.

The Alberta Bronze Turkey Breeders' Association this year sent an exhibit consisting of 14 birds to the Royal Winter Fair, Toronto, and were successful in winning a first, second, third and fourth on mature birds, as well as four other prizes for younger stock. It was found that the birds over one year of age stood the long trip and were in better show condition at the end of the journey than the younger birds.

Sixty-two carloads of turkeys valued at upwards of \$400,000 were shipped out of the Province during the year. These, in addition to those consumed at home, bring the total value of the crop of market turkeys to a figure upwards of \$500,000.

ALBERTA APPROVED FLOCKS.

The Alberta Approved Flocks scheme, inaugurated in 1927, shows a steady growth. This year the entry consists of 65 flocks,

comprising 3,998 birds. This project is intended to stimulate interest in better breeding. In addition, one of the great advantages in the work is the location and inspection of good flocks throughout the Province as a source of supply for hatching eggs, baby chicks, and breeding stock.

The winter trap-nesting has been readily adopted by the farmers, coming at a season of the year when they have time to devote to it. The increase in membership of more than 50 per cent. over that of last year is indication of the popularity of the scheme. In four years it has grown from 11 flocks, comprising 738 birds, to the present year's entry of 3,998 birds.

ALBERTA ACCREDITED FLOCKS.

The rules and regulations and the salient points concerning this work are contained in the 1929 report of this Branch. It will not be necessary, therefore, to repeat them.

During the year two new units consisting of ten members each have been added. These are located at West Salisbury, near Edmonton, and at Queenstown in the south. The West Salisbury members are mostly prominent dairymen. They have found that poultry-raising works in well with dairying, and contributes greatly to the earnings of the farm. Egg production in this group for the months of October, November and December has averaged upwards of 50 per cent.

Several members of the Brant group report daily incomes of \$8.00, and one or two as high as \$10.00, a day with flocks of 400 and 500 birds.

Hatching eggs and baby chicks available in large quantities from the accredited flocks will all be from hens tested for bacillary white diarrhoea (pullorum disease).

The accredited flocks for the first time interested themselves in the poultry exhibitions. At the Alberta Provincial Poultry Show held in Calgary in December, they had a comprehensive exhibit, consisting of 100 specimens. It was a white rock from an accredited flock entry that won special prize for the best bird in the show. This is an indication of the high quality of accredited flock poultry, and a lessening of the gap between the fancier and the production breeder.

FINISHING POULTRY ON THE FARM.

The definite programme instituted in 1929 to finish and fatten poultry on the farm was continued this year. At a number of points, chiefly along the Canadian National and Canadian Pacific lines of railway east of Edmonton, a number of community poultry marketing projects were carried on, and several cars of very high quality crate-fattened poultry were shipped from these country points to the eastern markets. The satisfactory price obtained gave encouragement to the farmer to further this important marketing work.

The assembling, killing, dressing, packing and marketing was undertaken by the Poultry Pool, only the educational work in the country being undertaken by the Department.

DISEASE CONTROL.

So prevalent had Pullorum Disease (bacillary white diarrhoea) become that the Department was urged to provide the Agglutination Test, which is the only reliable test for the disease. Arrangement was made whereby the Department would bear one-half the cost, or 5 cents per bird, in flocks already under Government control in either the approved or accredited flocks organizations. Upwards of 15,000 tests were made. Arrangements will be made to hatch all tested eggs by themselves so that danger of reinfection of the chicks will be eliminated. It is hoped that the public will take full advantage of the disease-free flocks from which to buy baby chicks and hatching eggs.

PROVINCIAL POULTRY PLANT.

The poultry plant is maintained as a demonstration and experiment station as well as to supply quality breeding stock. Only high record stock is used for breeding. The males raised for next year's matings will go back to 300-egg stock or better.

Barred Plymouth Rocks, White Wyandottes, White Leghorns and White Plymouth Rocks are the breeds carried at present. All pullets are trap-nested in order to maintain and improve the production of the flock.

In the late fall there was a recurrence of the attack of bronchitis. The attack, while severe, was not so deadly as that of the previous fall and winter. Mr. J. H. Hare, the plant manager, continued many experiments in an effort to find some simple treatment. The most satisfactory treatment tried was as follows:

1. Use one Mercuro-tri-Carbolate tablet to 1½ gallons of drinking water.
2. Spray birds and house three times daily with Formalin solution composed as follows: Formaldehyde 15 parts, Glycerine 3 parts, Water 82 parts.
3. If weather is severe, heat the house.

During the summer a modern new laying house was constructed to accommodate 800 birds. A modern electric incubator was installed to demonstrate the most up-to-date methods of incubation.

The poultry farm is co-operating with the Poultry Branch of the University in carrying out a number of experiments. These are not sufficiently advanced at this time to comment on them. To this end, however, some special stock and equipment have been secured.

ROYAL WINTER FAIR.

Again the poultry breeders of the Province sent a representative exhibit of chickens and turkeys to the Royal Show. Those contributing birds are to be congratulated on the fine showing made.

Seventy-three birds in all were shown, and the following prizes won: 8 firsts, 9 seconds, 6 thirds, 3 fourths, 2 fifths, 1 seventh, 1 eighth, 1 ninth, 1 tenth.

In addition, this year the rabbit breeders sent eight animals along with the poultry shipment, and were successful in winning 2 first prizes, 1 second, 1 third, and 1 fourth.

Report of the Provincial Veterinarian

(DR. P. R. TALBOT)

The work carried on by the Animal Diseases Branch comprises the following:

1. The general supervision of the health of livestock throughout the Province, and also of the livestock at the various Government institutions.
2. The prevention and eradication of diseases of livestock in the Province, that do not come under The Contagious Diseases Act.
3. Lecturing on diseases of livestock at the different schools of agriculture, and on Veterinary Science at the University.
4. Investigational work in connection with the University of Alberta.

HEMORRHAGIC SEPTICEMIA.

We would like to bring to the attention of the Minister of Agriculture the large number of cases of Hemorrhagic Septicemia in the Province of Alberta. We are frequently asked to investigate these cases, and for his information we would like him to be acquainted with the following facts in regard to this disease:

Hemorrhagic Septicemia is the name applied to a disease existing in different parts of the Province, and affecting especially the cattle and swine. The disease is due to a micro-organism known as the bacillus bi-polaris septicus. When it affects cattle it is commonly termed Hemorrhagic Septicemia; its occurrence in swine is known as Swine Plague, and when it does affect chickens it is called Fowl Cholera. In affected cattle, we find that the symptoms develop in from one to three days, following exposure to the organism. The first indication shown by the animal who has contracted Hemorrhagic Septicemia will be a high temperature and loss of appetite. If it affects the respiratory organs there will likely be swellings around the head, neck, and in the vicinity of the chest. As a rule, blood-stained discharges come from the nostrils, and invariably death takes place as the result of pneumonia. In other cases the disease may assume an intestinal type and, as the term indicates, affects the digestive organs. In swine there is a high fever, the affected animal becomes weak, and there is a well-marked loss of appetite. Red spots frequently develop on different parts of the body, usually under the abdomen, behind the ears and around the rump. There are usually signs of pneumonia, the animal having a short, dry cough. Many of these animals recover, but stay in an unthrifty condition, and it is most difficult to get them to gain flesh as they should.

Owing to the large number of both cattle and swine that have gone from the stock yards during the fall and early winter of 1930, this disease has been spread generally throughout the Province,

and the loss resulting thereby has been considerable. The only satisfactory preventive that we know of is the vaccination of animals with Hemorrhagic Septicemia vaccine. If possible, this should be done prior to the animals leaving the stock yards for feeding purposes. Should the disease develop in cattle on any farm, the suspected cases should be removed from the herd and kept isolated in separate yards. The remainder of the herd should be transferred, if possible, to other yards or feed lots until the one previously occupied has been thoroughly cleaned and properly disinfected. All the bedding and litter and the feed in the manger likely to have become contaminated by the affected animals should be removed and burned. If the disease has occurred in a stable, it should be swept clean, and the manger, floors and sides of the stalls and walls should be cleaned thoroughly and washed with a solution of boiling hot water and lye. A few days later, if it is possible, the building should be disinfected with lye-wash and carbolic acid. The carcasses of the animals dying from this disease should be disposed of by either burning or burying.

Both cattle and swine can be protected against Hemorrhagic Septicemia by proper vaccination. We strongly advise the people of this Province—should they have an outbreak of this trouble on their premises—to secure the services of the nearest veterinary surgeon to vaccinate their animals. On account of the many serious mistakes that have occurred during the past few months in mistaken diagnosis—for instance, animals being vaccinated with blackleg vaccine in the supposition that an outbreak of blackleg had occurred when it happened to be Hemorrhagic Septicemia instead—many cattle were lost before the disease could be stopped. The veterinarian, by making a careful post-mortem examination, can generally determine whether the losses of the animals were due to Hemorrhagic Septicemia or not.

CONTAGIOUS ABORTION.

This disease is occupying the same prominent position that it has for some years past, and although several different methods have been suggested in the controlling of this trouble, none of the means offered appear to us to be the proper solution. During the past few months we have tried out several vaccines with varying success. It is too early as yet for us to say whether this method would be advisable for the farmers to adopt in controlling contagious abortion or not. According to the best authorities, especially those in the United States, this disease can be satisfactorily controlled by the segregation of cows that have aborted, for a short period of time, away from the rest of the breeding herd. But on account of the necessity of having proper equipment to isolate these animals, the method would not be popular, except at large institutions where the proper facilities are available, as few farmers can afford two sets of buildings and equipment and different herdsmen to care for the two groups of animals.

SWINE PARASITES.

There is no doubt that in certain sections of the Province of Alberta swine parasites are prevalent, while in other districts, few

farms are infested. During the past few months, at short course meetings and in various other ways, we have advised the farmers as to the best methods of combatting parasitic infestation in swine. We are endeavoring at every opportunity to try out new parasiticides that are being recommended by the different manufacturing companies in Canada and the United States. The people will be advised as to the best methods of treating swine when we have all the facts available. In the meantime, the most popular preparation is what is commonly called Nema Capsules, which is put out by the Parke Davis Drug Company, Walkerville, Ontario.

BOVINE TUBERCULOSIS.

The vaccination of animals against this disease is still being carried on by our Branch. The large experiment we have just completed this fall was controlled by the National Research Council, the Chairman of which is Dr. Tory. The results of this have not yet been published, but will be given out by that body shortly. In addition to this, we have at present a large number of calves vaccinated with raw vaccine as well as that of Calmette. The results obtained are satisfactory, and it is our intention to keep this work under close supervision, as we think efforts along this line are well worth while. In addition to experiments with calves, work also has been done in the immunization of baby chicks, by the administration of vaccine by the mouth, shortly after being hatched. The one big experiment just completed late last fall would indicate that there are great possibilities in the vaccination of poultry against this disease, and it is anticipated that much of this work will be duplicated again next fall.

MINERAL DEFICIENCY.

With the co-operation of Mr. Kelso, Provincial Analyst, University of Alberta, we are making an analysis of the feeds on various farms throughout the Province, in order to find if there is any variation in the mineral content of these feeds from different localities. There are many indications on certain farms in Alberta that would lead us to believe that the loss of livestock on these particular premises might be traceable to the lack of certain materials in their foodstuffs. With this idea in mind, the analysis of the various kinds of fodder is being undertaken, and when a full report has been completed, experiments will be tried in the way of the addition of these minerals—should any be lacking—to the different rations for various classes of livestock.

FORAGE POISONING.

During the past few months we have investigated several losses in horses, occurring in the southern part of Alberta, the result, we believe, of feeding mouldy sweet clover and alfalfa. This form of poisoning belongs to a group of what is called Cryptogamic poisoning, and generally produces disturbances of the nervous system. As a rule, the disease is acute, the mortality very high, and but few well-developed cases ever recover. In the outbreaks

investigated by this Branch, about twenty-two horses died, and as far as we know, only one affected animal recovered. It is interesting to note that all affected animals in each case had been fed from one stack containing the mixture of sweet clover and alfalfa hay. The symptoms are staggering gait, increased flow of saliva from the mouth, dilation of pupils of the eyes and congestion of blood vessels of that organ, respirations fast and jerky, temperature usually subnormal, trembling of the muscles in various parts of the body, and finally, paralysis of intestinal tract. Symptoms may last from two to five days, with delirium followed by paralysis and death. Treatment is not satisfactory, but if the animals can be given a purgative, such as raw linseed oil or castor oil, before paralysis of the intestines takes place, they have a good chance for recovery. This condition is sometimes referred to as Forage Poisoning Botulism, and resembles somewhat cornstock disease, which, we are led to believe, is common in the United States. As the feeding of sweet clover and alfalfa is becoming more general each year, we shall not be surprised if this trouble should become one of our feeding problems.

FUR FARMS.

During the past twelve months there has been an interest shown by fur farmers in diseases of fur-bearing animals. Innumerable men have called at this office seeking information, and the number of animals sent to the Provincial Laboratory for post-mortem examination has been considerable. Judging from the requests for assistance along these lines, it would appear that in the near future considerable time and thought should be given to this class of animal life. It is only natural to assume that animals in captivity will be susceptible to physical and mental derangements. Foods to which they are unaccustomed, that is unnatural and unvaried, combined with a strange environment, react in a detrimental way on the captive. It is claimed by some that the food given to captive fur-bearing animals meets all requirements. Yet they do not get it in the natural way. Neither do they have the variety, and probably miss the elements important to their well-being. Again, however, there is the possibility that many animals become accustomed to scientific diets, prepared by human hands, and thrive on it.

Another important phase, as we see it, of the success of fur farms is the construction and location of the run-ways and houses. Many are so placed that it would be most difficult to move to fresh ground when this becomes necessary. If they are like other animals that are kept on the same ground for a long period of time—and we presume they are—the soil will become polluted with pathogenic organisms. The advisability of pens situated upon well-drained soil, arranged so that water will not drain from one pen to another, and so placed that there is a space of several feet between each, will lessen the possibility of the spreading of disease (should an outbreak occur). Those starting into the rearing of both foxes and mink would, we believe, be well advised to pay particular attention to the construction of the kennels or nest boxes. It is necessary for young foxes especially to have a uniform temperature, and

from the reports we get many die as a result of chilling. In the case of young mink, drafts and dampness take a considerable toll. The question of cleanliness in the rearing of foxes, mink and muskrats is one of the most important factors in the success of this industry. Up to the present time little work has been done in this Province in the way of investigating parasitic diseases. From what we can learn, this class of disease is the same as in all other provinces, and the fox is quite as susceptible here as elsewhere. Fortunately this animal responds readily to treatment, and the many forms of parasitocides on the market are, as a rule, satisfactory. In the case of the mink, most of the cases are traceable to nutritional troubles, and thought to be due to a deficiency in the mineral matter and vitamins. In our opinion, this deficiency is the cause of much sterility, but only a careful study of feeds and many experiments would solve the problem. The raising of muskrats under captivity and the enclosing of lakes on farms for the purpose of rearing these animals under a semi-wild state demands special attention. It would appear that much of the success of raising muskrats in certain lakes depends largely upon the kind of water in which they will live, as well as the food supply. From analysis of water that we have had made from certain lakes, it would indicate that there is considerable variation in the constituents, and whether a lack—or an over-amount—of certain minerals would act in a detrimental way on the development of the rat or the lustre of the fur, we do not know. Again, there are cases cited where rats will migrate from a certain lake for no apparent reason, and after a lapse of several years return to this same body of water again. The cause of this is not known, and is one of the problems awaiting solution. Another peculiar phenomenon claimed to be true by many is the fact that periodically muskrats die in large numbers. This statement is refuted by a large number of people, but the fact remains that depletions do occur from time to time. In our opinion it is a mistake to think that all animals in a wild state are healthy. If muskrats are like all other classes of animals, they have epidemics that attack them in various forms of virulency, and the healthy muskrats that we see are survivors of these outbreaks. From the few post-mortems we have made on muskrats, we are aware that they suffer from parasites to a greater or lesser degree, but as yet we cannot say if they are infested to such a degree that it would cause their death. There may be a bacterial organism as yet unidentified that, under certain conditions, is capable of producing epidemics to which the rat is particularly receptive. These are fields of investigation where little has been attempted, and the opportunities are great for one interested in this particular work. Many now establishing fur farms are acquainted with fur-bearing animals in the wild state, and by having the animals under close observation, will collect much information that will be of immense value in the future. Although this Branch is not equipped with men having the proper training to make a scientific study of these diseases, we are endeavouring to render what service we can.

JOHNES' DISEASE.

During the past few months we have had the opportunity to make a study of several cases of Johnes' disease. It is the first time this condition has been reported to us, and although several stockmen, familiarized with such cases in European countries, have stated that they have seen a few animals here with symptoms somewhat similar, we were unable to make any definite statements until we could have a bacterial examination made, or a post-mortem held. In the first case where this was possible, a portion of diseased tissue was given to Dr. Shaw, Assistant Bacteriologist, University of Alberta, who was able to identify the bacillus or causative agent that produces this trouble. Upon receipt of this information, we tested several suspected animals with "Johnin", and we were able to obtain a reaction through the use of this product. From authoritative sources we understand that the disease occurs principally in young cows and develops in a very insidious way, as months and even years may pass before the symptoms are at all pronounced. As a rule, a gradual wasting away of the animal, with an absence of fever and a periodical appearance of a diarrhoea, are the common symptoms. The post-mortem reveals anatomical changes of the intestinal tract, while a microscopic examination of the membranes of these parts shows the presence of the bacilli. It is said that Johnes' disease is spread by infected animals, and cattle suffering from this trouble are a constant danger to the rest of the herd. It is generally considered that the disease is spread from one herd to another by the transfer of infected animals. The method of diagnosis is by the application of the Johnin test. This is applied either subcutaneously or intravenously, and it is claimed to be very accurate in identifying infected cattle. It is said medicinal remedies are useless, and any attempts at immunization so far have proved a failure. Although cases of this disease are reported as being under observation for some time in the United States, we do not think it is prevalent in Canada, and we believe that it is very rare in Alberta. It is impossible to say how the animals under our observation became infected, and the history is therefore unknown. The cow from which the organism was isolated had been raised in the Province and was always kept under ideal conditions. Whether this disease is one that will develop into a serious menace in the future remains to be seen, but the fact that we had the opportunity of studying it was interesting from a veterinary standpoint.

STALLION ENROLMENT.

Owing to the lack of interest in the horse-breeding industry, the decline in the number of enrolments has been gradually more pronounced. No doubt the large number of tractors placed on farms for agricultural purposes is depleting the quantity of work horses at an alarming rate. The statement is frequently made that a farmer can buy horses much cheaper than he can raise them. In addition, he argues why should he be inconvenienced with a stallion on his premises for twelve months of the year. These are facts that one must contend with in endeavouring to encourage the breeding of heavy horses. We have always maintained that a farmer—to

run his farm successfully—especially in times of depression, must depend to a considerable extent upon horse-power. There is little doubt but what the number of horses that will be kept on farms will be much less than the number used several years ago. However, there is no reason why the animals maintained should not be of better quality than formerly. Therefore it is our opinion that for the good of the livestock and for the country generally, our farmers should raise a few colts at least each year, with every precaution taken that the stallion selected should be of the highest quality obtainable in the district. We sympathize with the stallion owner, who has most certainly suffered during the past few years. If some assistance could be given him in the way of compensation for keeping and travelling a good stallion, we believe it would be worth while. At present it would appear as if a Dominion policy would be worked out to encourage the breeding of heavy horses, and it is quite possible that the owners of good stallions will get consideration that they have not received for a considerable time past.

The following is the number of stallions, according to breed, that has been enrolled with this Branch for the years 1929 and 1930:

	1929.	1930.
Percheron	188	157
Clydesdale	112	91
Belgian	61	57
Thoroughbred	12	23
Shire	16	10
Standardbred	5	2
Suffolk	4	1
American Saddle	2	3
Jack	2	1
Hackney	1	1
	403	346

Report of the Provincial Farms

(DONALD DOUGLAS, *Director*)

The crop of 1930 on the Provincial Farms was in most of the districts only fair, although the season opened up early and conditions looked favourable, with enough moisture in the soil to make good germination in most of the districts. But the continued dry and windy weather and limited amount of moisture in the soil caused the young plants to wither, and in some cases the crop was a total failure. We reseeded some of the land after it had been blown out at Vermilion and Youngstown, but as the continued dry weather prevailed in the Youngstown district we had only a light crop of green feed on the reseeded land. However, conditions were more favourable in the Vermilion district, for after reseeding this land the district was favoured with plenty of moisture and the crops were very heavy.

FIELD CROPS.

Claresholm.

This farm had a fair average crop for this year, although not as heavy as in some previous years. The alfalfa was light owing to the dry condition of the soil in the early spring.

Raymond.

This farm produced a very good crop and the yield of grain was good. Fall wheat gave a yield of nearly 50 bushels per acre. The beet crop was one of the best we have grown. This district had plenty of moisture during the entire season, but the early frost and snow during the beet harvest made it very difficult to handle. In some cases a lot of the beets were frozen, but our own crop was harvested without any loss from frozen beets.

Olds.

Although the crop on this farm looked good, we were visited by hail-storms at two different dates, totally destroying the entire crop. While we had the misfortune to get no grain of any account, we were able to salvage a lot of roughage for winter feeding.

Gleichen.

This farm was in one of the worst districts for lack of moisture, and the crop was only light, with the exception of the land under irrigation.

Vermilion.

In the early spring, after the land had been seeded and the crop away to a good start, the continued dry weather and the very high winds did considerable damage to the crop, and we had to reseed seventy acres. But at a later date there was plenty of moisture, producing a very heavy crop, which goes to show that with the needed moisture good crops can be grown in any of the districts where our farms are located.

Oliver.

Conditions on this farm were only fair, as we had continued dry weather after the seed was planted. Generally speaking, there was plenty of moisture to germinate the seed and growth was very rapid for a time, but the continued dry weather began to tell on the land that was cropped the year before; but on summerfallow and breaking conditions were different, and plenty of moisture was stored in the soil. We had a yield of Reward wheat that produced 35 bushels per acre and oats on breaking 75 bushels per acre. All of our wheat graded No. 1 Northern.

Youngstown.

The crop on this farm was a total failure owing to the continued drouth and wind, but I am sure the wind did more damage than the drouth. The reseeded land produced only a light crop of green feed, and all grass seed was blown out of the ground.

LIVESTOCK.

Clareholm.

On this farm we have a herd of Ayrshire cattle, Shropshire sheep and Yorkshire pigs. The dairy herd has done well during the past year, the increase of young stock has been good, some of them being of outstanding quality, especially the young stock sired by our imported sire, "South Craig Prince John." A number from this herd were exhibited at the Calgary and Edmonton shows during the past summer, and did exceptionally well.

Olds.

At this farm we have Shorthorns, Guernseys, Shropshire sheep and Yorkshire pigs. During the past year our increase in young stock has been good. Some of the young calves from our imported sires are outstanding calves, and we hope to have one of the best herds in the Province. We exhibited a carload of Hereford steers at the Royal Winter Fair at Toronto in November, winning third prize. We are again feeding a carload of Shorthorn steer calves for the same show in November, 1931.

Raymond.

We now have on this farm a herd of mostly pure-bred Holsteins which we have entered on the R.O.P. test. Some of these heifers give promise of making some good records. We also exhibited a carload of Hereford steer calves at the Royal Winter Fair, Toronto, in November. These calves, when first purchased, were for an experiment, but feeling that they were an exceptionally good load of steers, we finished them for the fair, and won second prize.

Gleichen.

We have at this farm Aberdeen Angus and Hereford cattle. We did not have a large herd of either breed, so we shipped all of the two breeds to this point.

Oliver.

The herd of Holsteins that we have at this farm is one of the best testing herds in the western provinces. In some of our tests,

out of fifteen cows we have had as high as twelve making over four per cent. butterfat test, something that is not often accomplished with a Holstein herd. We also have Clydesdale horses, Hampshire sheep and Tamworth swine at this point.

We exhibited a number of Clydesdales at the Royal Winter Fair, Toronto, in November. With our stallion, "Emigrant's Masterpiece," we won third prize; "Corsewall Alice", Clydesdale mare, won second prize in a large class, and yearling fillies won prizes. We also exhibited at the Ottawa Winter Show and made a better showing: "Emigrant's Masterpiece" was first and Grand Champion stallion of the show; "Corsewall Alice" was first and Grand Champion mare of the show; the two yearling fillies exhibited were first and second, with one of them Reserve Junior Clydesdale of the show. You will note that the above winnings were very creditable showings. We hope to again compete in the fall of 1931.

Report of Provincial Apiarist

(S. O. HILLERUD)

The beekeepers of Alberta have harvested the largest crop of honey in their history. The spring was cold and unfavourable, and many wintered-over colonies were weak. By the free use of sugar syrup and the ruthless uniting of weak colonies with moderately strong ones, or the introduction of package bees, the colonies were put in shape for the flow. Nectar came in in such quantities that southern beekeepers began extracting the first week in July, and the flow continued with very few breaks until the snows of September.

The drouth ruined honey prospects for many of the smaller beekeepers of the north. Mr. Chalmers, who inspected practically all the apiaries north of Calgary, reports that less than twenty per cent. were getting satisfactory yields.

An outbreak of American Foul Brood in the southern part of the Province prevented the Provincial Apiarist from visiting the northern beekeepers. This disease was unknown to the greater number of beemen in Alberta, and in its early stages, before it was ropy, they were dubious of two and three-cell infection which they thought might well be sac brood or European Foul Brood. In all such cases a microscopic examination was made, and if they remained unconvinced, a sample of the diseased comb was sent to the Department of Bacteriology at Edmonton. The development of the characteristic symptoms generally occurred before the return visit and this, together with the report of Dr. Shaw's diagnosis, satisfied every beekeeper, who promptly agreed to the destruction of the colony and hive by burning. The cause of the outbreak is unknown. It is generally held that disease will not be brought in by package bees, but the experience of last summer leads us to feel the need of investigational work.

EDUCATIONAL EFFORTS.

Courses in beekeeping were given at the schools of agriculture at Claresholm, Raymond and Olds. Circulars were prepared dealing with Swarming, Package Bees, Handling the Honey Crop, and Wintering Bees. Two radio talks were given over the University radio in the spring on vital points of spring management. An exhibit was prepared for the Calgary and Edmonton exhibitions, and copies of a small circular of Honey Recipes distributed. Field days were held at Strathcona and Irma in May, June and August. Two small apiaries were established, one at the O.S.A., Olds, under the direction of Mr. Yauch, and the other at the V.S.A., Vermilion, managed by Mr. D. A. Andrew, and the following are reports received from these points:

At Olds two three-pound packages of bees were received and hived on May 21st. One hive was placed on scales and was pro-

vided with drawn combs, the other was given foundation. Both hives were fed sugar syrup until about June 5th, when the flow of nectar was sufficient for their needs, and feeding was discontinued.

The weight of the hive on the scales was taken daily and a record made of these weights. The best gains were made from the middle of August to the 17th of September, after which losses in weight were generally recorded.

The total production of the hive on foundation was 117 lbs. 7 oz. of extracted honey, as compared with 120 lbs. 13 oz. obtained from the colony on drawn combs. At the end of the season these bees were destroyed.

At Vermilion, five three-pound packages of bees were secured on May 21st. These bees were all placed on foundation, no drawn combs being used. They were managed in such a way as to produce as much drawn comb as possible and to be wintered in over-size Kootenay winter cases. One hive was placed on a scale, as was done at Olds, and satisfactory gains were recorded in the months of July and August. Very little gain is recorded previous to July 1st, and practically none after September 1st. These colonies went into the winter each having seventy-five pounds of stores. In addition to these stores, one hundred pounds of honey and four combs were sold, and one hundred and fifty drawn combs were produced. A close check on the production cost of each of these experimental apiaries will be kept, and it is hoped to have some valuable data on the problem of wintering bees versus destroying in the fall and purchasing packages in the spring. Valuable information will also be secured with regard to the honey flow and nectar-producing plants in the central and northern parts of Alberta.

DEMONSTRATIONS.

Demonstrations of honey and its uses were given by Miss Milne at Wainwright, Hardisty, Viking and Irma. An exhibit of foods in which honey was used was prepared for the Lethbridge Horticultural Show. Conditions made the demonstration planned for impossible, but Miss Peterson discussed the use of honey, and copies of the honey circular were distributed.

Three local beekeepers' associations are in existence, and a Province-wide organization will probably result. The youngest, that at Calgary, put on a very creditable exhibit at the Calgary Horticultural Show.

INSPECTION.

Over eighteen hundred and fifty colonies were examined in one hundred and sixteen apiaries. Seventy-five cases of American Foul Brood were reported in the southern part of the Province; thirty-seven of these were found by the inspector. Thirty-eight others were reported to have been destroyed by fire before his arrival. Only two cases were found by the inspector in wintered-over colonies, and these were the only ones of the thirty-seven that had scales. All cases of A.F.B. found by the inspector were burned in his presence. Only one of the thirty-eight reported destroyed was

said to have been a wintered-over colony. Two colonies of A.F.B. were reported from the north. Two hundred and twenty-seven brood chambers were examined after the bees were killed in the fall, in an effort to see if lighting conditions in honey houses would permit of wholesale examination of combs in the spring before the package bees arrive. The results obtained justify further trial of this method. Several days were spent in yards when the bees were being killed, to see if this type of inspection, which would prevent the mixing of combs should infection be present, could be carried out. It was not altogether satisfactory, but deserves further trial.

Report of the Publicity and Statistics Branch

(H. P. BROWNLEE, *Statistician*)

Owing to the widespread depression of 1930, this Branch did not consider it advisable to give wide circulation to any publicity which might cause undue influx of people or embarrassment in a complex economic situation.

Interest in the Province of Alberta as a potential field along all lines of endeavour has by no means abated, and this was strongly evidenced in the number of enquiries received.

Writers and lecturers have been furnished with informative material, such as articles and photographs, and in addition, publicity has been secured through the co-operation of the newspapers. Much paid advertising has been carried on with very favourable results.

The Province of Alberta, especially since the advent of gravelled roads, is becoming highly regarded as an ideal place to spend vacations. Diversity of scenery and beauty spots along the Trans-Canada highways are attracting yearly thousands of tourists to the Province. To meet the growing demands for tourists' literature, this Branch compiled and issued a publication entitled "Alberta's Beauty Spots," which met with a very favourable response.

STATISTICS.

The Dominion Bureau of Statistics has given much valuable co-operation in connection with the collection and compilation of agricultural and other statistics. These particulars have proved very useful for supplying information to enquirers. During the year a publication entitled "Statistics of Progress, Alberta, 1906-1928," was issued. The contents were much appreciated by governments, financial and investment establishments, statistical and colonization agencies, and prospective settlers.

Threshers' Licenses numbering approximately 7,500, were issued during the season of 1930. Appropriate records were kept, special attention being paid to crop statistics.

EXHIBITS.

During the year grains, grasses and samples of natural resources were collected for exhibit purposes. In addition to appearing at the Provincial Seed Fair, Alberta exhibits were shown as Class "A" fairs, Calgary and Edmonton; Class "B" fairs, Red Deer, Camrose, Vegreville, Wainwright, Stettler and Lacombe. The quality and artistry of the exhibits elicited much praise from the press and general public.

REPORT OF MOTION PICTURE BRANCH, 1930.

The Motion Picture Branch was actively engaged during the year 1930, making a greater amount of film footage than in former

years. A varied number of subjects was included in the programme of the year.

An extensive picture of farming and farm operations was produced on standard film and sent to England for use in connection with the World Poultry Congress, and later used in the British Isles.

Considerable footage was added to a "Wild Life of Alberta" picture made the previous year, including the "Dance of the Prairie Chicken" and flocks of swans on many island lakes near Medicine Hat.

A commencement was made at featuring summer resorts and fishing grounds of Alberta, including a trip to Cold Lake and activities at Alberta Beach and Lac St. Anne.

A new feature of the work of 1930 was that of undertaking to make 16 M.M. film, both negative and positive. This proved very successful, and a considerable amount of footage was made on this size of film, including modern harvesting operations, buildings and grounds of government institutions, school fairs, etc. With this equipment pictures were made on 35, 28 and 16 M.M. film during the year.

A feature of the work of the year was the sending of films of the three sizes to the Royal Show at Toronto, where they were shown in connection with Alberta Day, giving a visual screen story, including the activities of the farm, manufacturing industries and many of the resources of Alberta.

In addition to the above, "still" pictures were made for various branches of the Department of Agriculture.

Report of the Alberta Women's Bureau

(MARION E. STOREY, *Acting Director*)

The work of the Alberta Women's Bureau Branch has, as in previous years, followed normal lines. The work has been almost entirely carried out by courses of three to five days' duration, there being very few single day lectures applied for. Owing to the mild weather, the work was carried on until the latter part of December, and found most satisfactory.

During 1930 demonstration lectures and short courses were given to the Women's Institutes, United Farm Women of Alberta, and a few clubs belonging to other organizations.

In some districts the different organizations have formed joint committees to carry on the work, and these committees are proving most helpful.

The following subjects were demonstrated during 1929: Foods and their functions, proper cooking, care and preparation of same, household administration in its various branches, sewing, millinery, basketry.

The Department of Health has taken over the teaching of child welfare, home nursing and treatment in emergency.

The arrangements made for carrying on this work are as follows: The Department of Agriculture provides the lecturer or demonstrator and pays her travelling expenses and sustenance allowance. The local organizations undertake to advertise the lecture, demonstration-lecture or short course. They provide the place of meeting and some of the equipment, where equipment is required.

The Alberta Women's Bureau work was carried on throughout the year, the greater part being done during the summer months.

No. of sewing courses given	78
Total attendance	4,973
Average attendance	19
No. of millinery courses	12
Total attendance	517
Average attendance	15
No. of basketry courses	77
Total attendance	4,907
Average attendance	19
No. of foods, Household Administration	39
Total attendance	1,813
Average attendance	22
No. of one-day demonstration lectures	14
Total attendance	288
Average attendance	20
No. of Interior Decoration	44
Total attendance	2,498
Average attendance	14
Total attendance all short courses	14,708
No. of single demonstration lectures	14
Total attendance	288
Total attendance short courses and demonstration lectures.....	14,996
No. places visited	268

The request for short courses is decidedly on the increase. Household administration, cooking and preparing of foods, are always helpful, and great interest is being shown in them.

Sewing and dressmaking courses are always in demand. The courses are arranged for three to five days' duration. This work is found to be helpful and of a practical nature, and greatly appreciated.

Several courses in millinery were arranged for, and also a few courses in flower-making, which were very successful.

Basketry courses are still in demand. These courses are also arranged for three to five days' duration. Organizations which have already had two or three courses are now making larger articles, including furniture, showing that the interest still remains in the work.

The demand for interior decoration is on the increase. These courses include making of rugs, drapes, etc., also artistic blending of colors, and is found to be very helpful.

HONEY DEMONSTRATIONS.

The Women's Bureau assisted the Provincial Apiarist in arranging exhibits on the uses of Honey in the Home for the Calgary and Edmonton fairs and the Lethbridge Horticultural Show. Honey was used as a substitute for sugar in the preparation of foods, canning fruits, jelly-making, etc.

These were following by a series of demonstration lectures in the Irma area on the same subject.

The public displayed considerable interest in this work, and it is felt that these demonstrations could profitably be repeated in those areas where honey is produced.

FARM WOMEN'S WEEK.

During July two farm women's short courses were held at the Schools of Agriculture at Vermilion and Olds. These were conducted jointly by the schools of agriculture and the Alberta Women's Bureau.

Programmes, including lectures and demonstrations on topics of special interest to farm women, were arranged. Suitable entertainment was provided, and an effort made to see that the delegates had a good rest as well as some profitable instruction. In all, there was a total attendance of 72 women and 10 children under five at these two courses.

TRAVELLING LIBRARIES AND LOAN COLLECTION.

During the spring of 1930 this section of the Branch was united with the Extension Libraries Division of the University of Alberta.

Requests for libraries, etc., are now forwarded to the University for their attention. Through that medium country women are now being supplied with the information that was once distributed from the Bureau.

ALBERTA WOMEN'S BUREAU DISTRICT WORKER.

The district worker in the Vegreville area has continued with the work commenced in August, 1928. This worker carries out her

task of helping the women to improve their home and community conditions by holding a series of demonstrations and lectures and through the medium of personal contact.

Instruction is given in such subjects as sewing, the preparation of good, wholesome, well-balanced meals, canning of fruits and vegetables, making of pickles, etc.

The women are also encouraged to develop their knowledge and skill of handicrafts and to take an active part in their community activities.

An increasing interest is being displayed by the women and girls in this work, and the Department feels that it is going a long way towards establishing a happy, well-organized community life.

Report of the District Agriculturists

REPORT OF THE DISTRICT AGRICULTURIST, LETHBRIDGE.

(M. L. FRENG)

We entered the year 1930 with agricultural conditions fairly bright, following a good average crop season, and prices on farm products at that time were still satisfactory.

We had a heavy fall of snow, and the weather was very cold throughout January. February brought milder weather, which continued until spring. The spring work opened up in good season and continued without much interruption. There was very little reserve moisture, but the Lethbridge district received sufficient rain throughout April, May and the first half of June to give the crops a splendid start. There was no rain between July 1st and harvest time, but in spite of the long dry and hot period the crops, generally speaking, were remarkably good in the Lethbridge district and the quality above average. Crops suffered severely along the line between Taber and Medicine Hat, also on the Retlaw-Lomond line. The wheat acreage, especially in our irrigated districts, was considerably reduced from the previous year, but this was made up in coarse grains.

The sugar beet acreage was increased from about 7,500 acres to some 14,000 acres this last season. The average tonnage was also greatly increased. Unfortunately we had a very heavy frost on October 14th, which froze the ground down some seven inches, and this continued for perhaps a week or ten days. At that time there was only about 50 per cent. of the sugar beets harvested. However, the weather turned mild and the balance of the beets were dug, and to all appearances looked as though they were in good condition. But the beets dug after the frost did not keep satisfactorily in the dumps, and there was a heavy loss to the factory and to the farmers.

The potato crop suffered likewise. It is estimated that about 40 per cent. of the potatoes throughout the irrigated districts were lost, due to the heavy frost.

There has been a marked progress throughout the irrigated districts in the amount of farm flocks of sheep, also in winter feeding of sheep, cattle-feeding and the gradual increase of dairying and poultry-raising.

The shipments of livestock from this district have been greatly increased the last few years. If the price on farm products had kept up in line with the previous years, the farmers of this district would have been in a good position to finance the purchase of stock and to make the necessary improvements which are so badly needed on most of the irrigated farms.

We have spent a very busy season in connection with the district problems. I regret that we have not been able to cover the large territory as effectively as we should have liked.

Owing to the hot, dry weather the irrigation naturally became a very important problem, and there was a heavier demand for water than we have had for some years. Practical assistance in ditch location and land preparation was carried on amongst the farmers with a view to improving methods of applying water more uniformly so as to eliminate the detrimental effects of over-irrigation. Progress in this direction has been made, but there will be demand for this service from year to year.

There was considerable time given to selection of land suitable for beet growing; considering the lay of the land from the standpoint of proper irrigation and tilth, and also the surveying of ditches in connection with irrigation.

Fertilizer experiments were carried on, the Department of Agriculture co-operating with the Consolidated Smelter Company of Trail, B.C. We supervised from this office trials carried on throughout the Coaldale-Lethbridge area, and along the line between Lethbridge and Pincher Creek. We attended to these trial plots to the conclusion, and results were forwarded to the Field Crops Branch of the Department at Edmonton.

During the month of February we held our annual irrigation short course at the Experimental Farm. In this connection the Department of Agriculture co-operated with the Dominion Experimental Farm. A very practical well-balanced programme was put on with a very good attendance from quite a large area, including the Lethbridge district, Lethbridge Northern, Taber-Barnwell, Raymond-Magrath and the United Irrigation project. The sentiment was voiced by the different members attending this short course that this should be made an annual event.

We have assisted in the matter of encouraging farm flocks of sheep throughout the irrigated districts, and I may say that this has been a success. The only discouraging part was that the depression came on as soon as a great many of the farmers were in a position to market their increase, but in spite of this fact there is no doubt but that a farm flock of sheep is very necessary on our irrigated farms from the standpoint of using up our by-products and waste about the farm.

Farmers in our irrigated districts are gradually increasing their dairy herds. Naturally, it takes some years to develop dairying, and this is a matter into which the farmer should go carefully, as it is almost impossible to purchase profitable cows in the country at the present time. However, irrigation farming is well adapted for dairying owing to the high class of forage and concentrated feeds that can be grown, and also to the high-producing pastures which can be kept in splendid condition throughout the season. In connection with our dairying, we also have two cow-testing associations. There is splendid interest taken in this respect, and the membership is gradually increasing.

Beef-feeding is also on the increase in this district. The Red Label Beef-feeding Association made an excellent success this

past year, and fortunately most of the cattle were marketed before the slump came in prices.

A considerable amount of time has been spent in connection with baby beef and dairy club work. The Baby Beef Club has been operated now for about seven years. Their calves are purchased in the fall about weaning time, and the regulations of the club are that the calves must be fed along commercial lines, no nurse cows or milk feeding being allowed. The animals were shown and auctioned off to the highest bidder at the Lethbridge Summer Fair. The champion, owned by Edwin Davidson, of Coaldale, sold for 50c per pound. All the animals shown had a splendid finish, and the members displayed wonderful skill in exhibiting these animals in the ring.

Under the heading of the Dairy Club we have an Ayrshire Club and a Holstein Club. In this respect we assisted in securing calves from as good producers as possible. The member commences with one calf, cares for same and shows it at the summer fair. Arrangements were made whereby this animal is to be taken further care of and shown later as a yearling, a two-year-old, and then entered in the annual milking competition. The member is also allowed a second calf the following spring, the raising of same to be carried on in like manner. We consider this a very important undertaking, as it means placing a foundation of good dairy stock on a great many farms in the district. Altogether, at the summer fair of 1930 there were about 85 animals exhibited by club members.

It was the impression of a large number of people attending the Lethbridge Fair that the Boys and Girls' Calf Club was one of the outstanding events of the fair.

The Alberta Institute of Co-operation held their convention at Lethbridge, commencing July 1st. In the capacity of registrar, I spent considerable time in this respect, and the services of our office staff here were likewise in demand at this time. Owing to the convention starting on Dominion Day and to the fact that haying was on throughout the irrigated sections, there was not a very good attendance of seniors, but from the standpoint of junior attendance it was a great success. There were about 100 juniors attending all sessions. The various committees from Lethbridge and district deserve a great deal of credit for the time and interest they expended in this work. A picnic was held at the Park Lake reservoir on the Lethbridge Northern, about 12 or 15 miles from Lethbridge. Premier Brownlee spoke at this picnic, and all thoroughly enjoyed the programme presented. Transportation was arranged for all juniors, and tickets were presented to each of the members. There was also a theatre party given to the juniors. At the conclusion of the convention a very enjoyable banquet and dance was held at the Marquis Hotel, sponsored by the Alberta Wheat Pool. The main speakers of the evening were Premier Brownlee, Hon. R. G. Reid, and Mrs. Warr, President of the U.F.W.A. Generally speaking, the convention was a success. Very great interest was shown by those present, but unfortunately not as large an attendance turned out from the farming community as was expected.

I have attended a number of summer fairs and judged at same. Also, I have done some judging at a few of the seed fairs.

We have further assisted in numerous field crop competitions. The Exhibition Board, co-operating with the Department of Agriculture, sponsored a splendid field crops competition in wheat and oats, also a better farm competition for irrigated farms and dry farms.

The U.F.A. of the White School District, co-operating with the Alberta Wheat Pool, also sponsored a junior standing wheat crop competition.

I may say there was great interest shown in this competition, and besides the prizes in connection with same, I considered the greatest values lay in the fact that each members will have a large quantity of pure seed, in many cases sufficient to seed his entire farm, which will naturally result in higher yields of a better quality seed of greater profit to the farmer.

We have assisted in carrying on sugar beet competitions for both juniors and seniors. A 15-ton competition is sponsored by the Lethbridge Herald, the Department of Agriculture, the Canadian Sugar Factories, Ltd., and the Alberta Beet Growers' Association. These members must produce an average of 15 tons or more per acre to qualify. There are altogether seven prizes in the competition. The Lethbridge Herald is donating a Herald Challenge Trophy for the highest tonnage exceeding 15 tons from 5 acres. Club emblem and \$75.00 in cash are donated by the various other organizations. Second place covers the highest tonnage delivered to the factory, the Department of Agriculture Challenge Trophy, club emblem and \$50.00 cash prize being the awards. The other prizes are for members with the next highest scores.

In the Junior Sugar Beet Competition the following districts were represented and grants made as specified:

1. Raymond-Stirling—Government Grant, \$37.50; Alta. Beet Growers, \$10.00; Canadian Sugar Factory, \$27.50.
2. Magrath—U.I.D.—Government Grant \$37.50; Magrath and U.I.D. Association, \$10.00; Canadian Sugar Factory, \$27.50.
3. Lethbridge-Coaldale—Government Grant \$37.50; Coaldale Beet Growers, \$10.00; Canadian Sugar Factory, \$27.50.
4. Lethbridge-Northern—Government Grant \$37.50; Lethbridge-Northern Beet Growers, \$10.00; Canadian Sugar Factory, \$27.50.
5. Taber-Barnwell—Government Grant, \$37.50; Taber Beet Growers, \$10.00; Canadian Sugar Factory, \$27.50.

I may say that there was quite an increase in the members to qualify this year in the 15-ton competition, as yields were exceptionally good. One man from Barnwell averaged over 15 tons per acre on 65 acres. The better methods resulting in higher tonnage can be credited to a great extent to these competitions. There were over 100 members competing in the junior competition.

There is also a Junior General Competition. Five districts were represented, and the winner in each district receives a medal. Then the member with the highest score in the five districts receives a trophy. These awards are donated by the Department of Agriculture. In this competition stress is being laid on the amount of work which each member actually does in connection with his sugar beet plot.

In the month of October a ram and pure-bred ewe sale was held at the Lethbridge Fair grounds. About 200 head were disposed of at a fair price, considering conditions.

A very successful seed show, also sponsored by the Lethbridge Fair Board, was carried on in December. A very creditable showing was made, and the quality of the seed displayed was generally high. There was a Junior Judging Competition also put on in connection with this seed fair, and the four entrants making the highest score were granted a free trip to the Edmonton Provincial Seed Show, and there competed against other provincial winners with the idea of selecting an Alberta team to compete at the Regina World's Fair in 1932.

During the season we have attended a great many farm meetings, and some time has been spent with regard to special crops, such as beans, canning peas, corn for canning purposes, and string beans, with the idea of getting some canning factories located in our irrigated sections. In this respect the Taber-Barnwell district made a fairly good showing last season, and shipped considerable produce to the Broder Canning Co. at Medicine Hat. There were 136 tons of string beans harvested at a value of \$45.00 per ton at the factory, amounting to \$6,120.00. There were also about 14 acres of pumpkins harvested, totalling a tonnage of 133 tons. These brought \$8.00 per ton. A further harvest was 125 tons of canning seed peas. The company paid the grower \$60.00 per ton for these. There is no question about the high quality of these products that are produced in this district, and we trust that in the near future we may be able to induce some company to locate here.

At the request of the Alberta Poultry Pool Mr. Giffen, of this office, arranged to canvass the territory between Milo and Vauxhall on the Lethbridge-Suffield branch to Vulcan and Blackie on the Aldersyde line, Pincher Creek and the Lethbridge district to the International boundary, for the purpose of organizing community shipments of turkeys for the Christmas trade. Two carloads were shipped from the Lethbridge-Vauxhall district to outside markets. The graders commented on the exceptionally high quality of these turkeys, and stated that they were a higher percentage of special than they received from any other district.

Our agricultural office is located in the Sherlock Building, Lethbridge, quite central and conveniently situated for the public. In addition to our district work this office is shared by officials of the Department of Municipal Affairs, and from time to time members of other departmental branches, and a great many meetings in connection with district affairs are held here throughout the year. Besides our own correspondence and clerical work, our stenographer attends to correspondence, etc., for members of the Municipal Department here and also all others concerned with our work here.

I may say we have enjoyed the best of co-operation from the various local organizations in connection with our work throughout the entire season.

REPORT OF THE DISTRICT AGRICULTURIST, ST. PAUL.

(W. D. GENTLEMAN)

Some difficulty was experienced in organizing swine clubs during the past year on account of the shortage of feed, but eventually clubs were formed at St. Paul, Elk Point, Speeden and Waskatenau, all of which carried on fairly successfully.

The four clubs had a total membership of 85. An encouraging measure of interest and enthusiasm was shown. Fifteen boys and one girl were privileged to visit Edmonton Judging Contest in the fall, in which the Waskatenau team won third place.

In all, 193 feeder hogs and 73 pure-bred sows were purchased and distributed to club members, in addition to those already owned from the year before. At least 100 Yorkshire gilts of good type and quality remained on the farms at the end of the year, and it is evident that this work cannot but result in widespread improvement in the class of hogs in these districts—especially as the Dominion Government has co-operated in the usual way by placing first-class bacon type boars in these districts wherever required.

It might be said that such improvement is very much needed. The general class of hogs shipped from here is very low. Much apparently, too, has yet to be learned in the stock-feeding art. Slow maturity is the general rule, and far too much stock leaves the district in an under-finished condition.

MISCELLANEOUS LIVESTOCK WORK.

Nineteen sows and 8 boars were obtained for individual farmers. Bacon hog demonstrations were given at various points throughout the district and advice given on many problems.

The Dominion Department of Agriculture was co-operated with in the placing of 6 rams—released following the withdrawal of the Sire Loan Policy—at very nominal prices with sheep breeders throughout the district and at outlying points, endeavour being made to place these with men who had not previously had advantage of any Dominion loan policy.

Assistance was given with the culling of several ewe flocks.

A few exchanges of proven bulls were arranged, and some orders secured for the purchase of young bulls in 1931.

Special endeavour was made to increase the interest in St. Paul Fair. The livestock classes showed a gratifying improvement both in quantity and quality, while a special farmers' judging contest proved a particular success.

Considerable attention was paid to new settlers particularly on St. Bride's Reserve. To date these have not had sufficient feed on hand to warrant a pig club, but assistance has been given on general farm problems.

REPORT OF THE DISTRICT AGRICULTURIST,
CAMROSE.

(J. W. Howe)

The office of a representative of the Department was opened in Camrose in May and closed in September. Most of the time during these months was spent in conducting boys and girls' club work.

Some difficulty was experienced in the organizing of livestock clubs in the early spring, due chiefly to shortages of feed, as this district experienced a very severe drought in 1929.

The Boys and Girls' Swine Club that had carried on the year previous was reorganized with a membership of 29. This club was very active throughout the summer, and at the Swine Club Exhibit in the fall exhibited 29 pigs. Had more feed been available a larger number of pigs would have been shown. A judging and demonstration team from this club met in a competition in Edmonton with teams from other clubs in the Province, and they were successful in winning second place.

A Dairy Calf Club was also organized with a membership of 12, and these calves were exhibited at the fair in the fall. A judging team from this club was also trained to compete in the Provincial competition at Edmonton in October. The team succeeded in winning the Provincial championship, and later won the Dominion championship at the Royal Winter Fair at Toronto. The members of this team were Borden McNeight and Vernon McNeight, of Camrose.

The organization of a Boys and Girls' Sheep Club was completed, with a membership of 10. A carload of grade ewes was purchased at the Lacombe Sheep Sale for distribution among the members.

Five pure-bred Yorkshire boars were brought into the district under the Dominion Sire Loan Policy. These sires, together with the pure-bred sows in the district, will aid materially in the production of better type pigs.

For the Sheep Club five pure-bred Hampshire rams were distributed to the members. A great deal of interest was shown in the Sheep Club, and it is expected that the quality of the sheep in the district will be improved.

A Boys' Camp was held in conjunction with the Camrose Exhibition, with 16 boys in attendance. A judging competition was held, in which all boys competed, two boys making a team.

During the summer a picnic was held for all club members. Over 50 club members and parents were present.

The representative acted as judge at one agricultural fair, and also as judge at the school fairs at Camrose, Sedgewick, Provost, Treaty Hill, Wavy Lake and Czar.

A great deal of interest was shown in the boys and girls' work, and it is evident that considerable time can be spent on this work to good advantage.

REPORT OF DISTRICT AGRICULTURIST, VEGREVILLE.

(F. H. NEWCOMBE)

Following the drought conditions of 1929 and with a light snowfall in the winter of 1929-30, the spring opened with the land quite dry and general conditions far from favourable for large grain yields. In common with other parts of the Province, soil drifting was an acute problem, and while there was not a large acreage reseeded, considerable damage was done. For the first time in this district sand-banks formed on roads and in fence lines, and large areas of crop were cut off. Accordingly, germination was not too uniform, and on June 10th prospects were very bad.

Beginning on the day following and for a time afterwards, rain fell almost every day, and two weeks later remarkable improvement in crop conditions had been effected. Subsequent precipitation was quite adequate, and eventually this district harvested one of the best crops in its history. The heavy snowfall in October delayed threshing for a time, but the subsequent fine weather permitted of its completion. The fine weather prevailing until the end of the year has been beneficial for completion of fall work and for livestock.

FIELD CROPS.

The grain crop was one of the best ever harvested here. Wheat yields of 45 bushels per acre were not uncommon, with the average about 28 bushels. Coarse grains were correspondingly good. Grades were satisfactory, most of the wheat grading 2 and 3 Northern, though some was tough following the snow. The seeding of grasses and various forage crops is gaining in popularity, and was more general last spring than ever before. Large quantities of sweet clover, Western rye, and brome grass were ordered through this office. Early seedings of sweet clover were not successful in 1930, though the later seedings appeared to do much better. It would seem probable that economic conditions will have their effect on general farming methods. Even now a greater trend toward livestock production is indicated, which will induce the seeding of more forage crops. Farmers are being encouraged to allocate more of their land for this purpose as a means of checking soil drifting and generally improving the chemical and physical condition of the soil. Considerable personal contact effort has been devoted to assisting farmers to plan proper crop rotations.

WEED CONTROL.

As noted in previous reports, this is now one of the major factors in crop production in this area. Rapid growth under good moisture conditions precluded much of the trouble from this menace during the past season. This office is hopeful that economic conditions, with special reference to grain growing, will have the effect of reducing tractor farming and inducing greater use of livestock in the scheme which we believe is inseparably linked with weed control. One of the primary factors in weed control is the use of

clean seed, and this office has co-operated with the Field Crops Branch to make this possible by providing a travelling seed cleaner. This machine started late in February, but before seeding was over it had cleaned some 11,000 bushels of wheat, oats and barley. The operation of this machine left something to be desired, and in the fall certain changes were made in it which, we hope, will result in better work at a lower cost. In addition to this concrete advancement, considerable information and advice has been given by this office in weed control.

SWINE CLUBS.

The spring of 1930 witnessed a decided revival of interest in swine production generally and in swine club work in particular. Owing to the previous decline in this work, young pigs were quite scarce. No new clubs were organized, though some preliminary work was done in the Holden district which we hope will be fruitful next season.

The Vegreville Swine Club had a successful season. A total of about 140 pigs were marketed by members, though the carlot shipment made on October 13th contained only 56, the balance having gone to market previously. In the Provincial competition the Vegreville carlot was placed second, and the pigs were sold at \$10.50 per 100 pounds for bacons. The judging team, composed of Wm. Schmidt, Robt. Wyllie and Leroy Fuller, was successful in winning first place in the judging competition, and the first two named composed the team which stood first in the Canadian National Railways competition and later won the Dominion championship in this work at Toronto. This is the second time that the Vegreville Club has won Dominion honors, while the Provincial championship for Canadian National lines has been won four times.

Swine club work would appear to have gone about as far as possible in the Vegreville district, and it will be necessary in future to tap new territory.

The Dominion Sire Loan Policy as regards boars has been steadily prosecuted in this district, and the fall of 1930 witnessed a very keen demand for these boars. The abundance of low priced grain stimulated the demand for breeding stock of both sexes, and this office has been instrumental in placing a large number of sows of good type. It is probable that sow breedings will be increased 200 to 300 per cent. over the last two years, and it has been the aim to impress the need for quality in these increases. Bacon courses organized were ultimately cancelled owing to threshing operations preventing attendance.

CATTLE.

Dairying is decidedly on the increase in the district, and a few of the farmers have selected the specialized dairy breeds, such as Holstein, Ayrshire and Jersey. We are of the opinion that for the most of the farmers in this district the dual purpose type will prove most profitable, and accordingly we are giving particular assistance to farmers to secure animals of this class. Some work has been done in locating and arranging for the purpose of thick, low-set Shorthorn bulls. Some of these have been secured through

the Sire Purchase Policy, which bids fair to be a very popular measure. The annual make of the local creamery is increasing from year to year. This office has given as much assistance as possible to the local cow-testing association, which now has about 25 members and is doing good work.

Beef cattle feeding has enjoyed quite a revival, and it has been possible to give some assistance in this work, especially in the hailed area around Lavoy. Feeding and housing instructions have been supplied to several farmers who are feeding an aggregate of some 250 head of baby beeves, yearlings, two-year-olds and young cows. The open shed shelter is being used, and the cattle appear to be feeding satisfactorily.

It has been the aim of this office to advise always a balanced system of farming, at the same time advising caution to those who may be influenced by prevalent propaganda to attempt a system for which they are not naturally suited, and for which they have not the proper equipment.

Co-operating with local farmers, a campaign is under way to create a pure-bred sire area in the Municipal District of Norma. This campaign is receiving splendid support, and to date no dissenting voice has been heard.

SHEEP.

There is a small but steady increase in sheep raising in the district. The difficulty of financing proper fencing is still the principal obstacle, but this office has assisted in establishing a few small flocks and has been able to give some help in the matter of locating good rams.

POULTRY.

A very keen demand was experienced for poultry as a means of turning the cheap grain into eggs. Throughout the season this office has given assistance in information on brooding, feeding, disease and housing. The matter on which we have not been able to assist materially is that of marketing, and it is perhaps the most discouraging aspect of the business. The spread between producers' and consumers' prices on both eggs and poultry meat appears to the farmer to be exorbitant, and yet none of the organizations at present have been able to reduce it. Disease also is becoming an alarming factor. In this regard we have assisted in the testing for Pullorum disease of the best breeding flocks in the district. This disease has been most serious recently, and is undoubtedly responsible in a large degree for the waning interest in poultry, as well as being an important contributing factor to the difficulties experienced by the local hatchery. The latter has completed a most difficult season, and it is doubtful whether it can continue.

SCHOOL FAIRS.

School fairs continue to prosper. We have always considered them as a means to an end. They require and receive considerable attention, and were most successful this year. The Vegreville School Fair brought out about 4,000 entries.

LECTURES AND SHORT COURSES.

A four days' short course was held in Vegreville in February. This was well attended and created considerable interest. As mentioned above, the bacon courses were cancelled. A large number of meetings have been held, at which addresses were given on topics of timely interest. These meetings prove a good means of meeting large numbers of the farmers and getting their opinions on various projects which we might have in mind. In addition to this effort in this district, assistance has been given at meetings and short courses in other parts of the Province.

Two weeks in August were spent in judging at fairs in the Peace River country.

Scarcely a day passes without requests from farmers for advice and assistance on matters too numerous to mention. Indeed, it is difficult to accomplish as much as one would like in the matter of organized effort, on account of the great amount of time required for individual work.

REPORT OF DISTRICT AGRICULTURIST, WILLINGDON.

(W. N. PIDRUCHNEY)

SEASON.

The spring of 1930 opened up fairly early, with plenty of moisture, although a dry spell during the seeding and immediately following the seeding operations indicated a severe crop failure. This handicap, however, was overcome when the first heavy rain came on the 14th of June, and thenceforth the district was blessed with an abundance of moisture for the rest of the growing season. The crops, which early in the spring showed signs of suffering, made very rapid growth, and by the end of June the crop conditions were without doubt the best the district has experienced for several years.

Harvesting operations began about the middle of August, and were carried on under ideal weather conditions. Some of the later sown crops were touched by a light frost that came on the 31st of August, but there was only a very small percentage standing. Evidently the damage was almost negligible.

In threshing the crop, however, more difficulty was experienced. In the first place, early fall rains interrupted considerably, so that there were only two or three days' threshing at a time, and when snow came on the 14th of October all hopes were abandoned of completing the threshing that fall, as there remained 50 per cent. unthreshed.

Conditions changed, however, when the snow disappeared, and favourable weather conditions prevailed to the end of the year, permitting the balance of the crop to be threshed. Because of the rains and snow the grain graded tough and, together with the low prices, the farmers realized very little for their bountiful crop.

FIELD CROPS.

There was a decided increase in fodder crops—in brome and rye grass and in sweet clover especially. The individual acreages are small, however, seldom exceeding 10 acres. The gospel of fodder crops is gradually spreading over the district, and it will not be long before most of the farmers will have the proper acreage of their farm sown to these crops. Just as an indication how rapidly it is gaining in popularity, I may mention that three years ago about 100 pounds of sweet clover seed was handled through the office, whereas in the spring of 1930 the amount exceeded 9,000 pounds. Fear of soil drifting, which is becoming a more serious problem every year, and limited wild land pastures are the two important factors responsible for the introduction of these crops.

There is also a tendency among some of the farmers to experiment with new varieties of wheat, many of which are not adaptable and not recommended from the standpoint of yield, quality, etc., but which may be slightly earlier maturing. An effort is continually being made to discourage this, and the use of more suitable varieties is advocated. The more progressive farmers still adhere to Marquis, and improve gradually the grade and yield by securing pure seed.

The weed situation is becoming more acute. This office is incessantly taking advantage of public gatherings, meetings and personal contact to disseminate the information on the weed eradication, and the ravages done by the pests if permitted to spread.

SWINE CLUBS.

There were no new clubs in operation during the past season, as difficulty was experienced in the spring in locating sufficient pigs of the proper type for the distribution among the boys and girls. Shortage of feed from the previous year forced a great many farmers to cull their pigs rigidly, hence the limited supply of them in the spring, unless for a prohibitive price.

About 100 pigs were located, however, and were used to strengthen the two existing clubs—Willingdon and Mundare—still leaving out about 20 which made applications for the pigs. A new club at Hairy Hill was organized early in the year with 26 members, but had to be abandoned owing to shortage of pigs. It is expected that the supply of pigs will be larger next spring, and this club will be in operation.

The Mundare Club exhibited 15 pairs of pigs at the Swine Club Fair, but did not make a carload shipment for competition. There were a great many pigs in the club, but difficulty was experienced in having them finished for market at the same time. There were fully 5 or 6 carloads of pigs sold out of the district by members and by others who were introduced in the raising of bacon pigs through the members.

The Willingdon Club was strong in membership and the number of the pigs raised by the members. It exhibited 29 pair of a very fine type at the Willingdon School Fair, and quite a few members did not exhibit owing to the inclement weather on the fair day.

A carload shipment was made the first week in November, which came out first in the carload competition for the Province. A team of boys, consisting of William Strynadka, Frank Shymko and John Lazaruk, made a very creditable showing at the annual Swine Club Show in Edmonton. They came out second in the judging competition as a team, with John Lazaruk standing highest in individual score among some 70 competitors. The team was also fortunate in winning the Provincial C.P.R. competition, which entitled them to a trip to Toronto Royal Show.

There is still considerable open ground in this territory for new clubs, and these will be organized as soon as time will permit, providing suitable pigs can be secured at the proper time and at an approachable price.

DAIRYING.

The demand for cows of good milking strain is increasing, but the majority of the farmers are not as yet accustomed to paying the price a good cow is worth, and often not as many cows are purchased as asked for. During the year 12 head of pure-bred Ayrshires and 9 pure-bred Holsteins were purchased through this office to take the place of inferior cows. Assistance was also rendered in many cases in the sale and purchase of the pure-bred bulls of various breeds. The greatest difficulty encountered in this endeavour is that it is not always possible to secure the type of cows when they are wanted. The demand early in summer was greater than ever, but with the slump in wheat prices many abandoned the idea of making any change until times improve. It is expected that in the near future this district will take profitable side-lines of farming. This phase of agriculture was very sadly neglected in the past.

Along with the introduction of better cows, greater emphasis is laid upon the better method of feeding and management. Too many farmers are inclined to lay the blame upon the individuality of the cow for low production, instead of which a great many of the cows could improve their milk flow by 50 per cent. at least if given better rations and management.

A team of boys, Alex. Stewart and Anton Rogalsky, from Mundare, were coached and took part in Alberta Dairymen's Judging Competition at Calgary. Considering the lack of sufficient good cows in the district to give the boys a chance to practice in judging, they did exceptionally well by taking fifth place out of 13 teams competing.

POULTRY.

Poultry work, although not as active in this district as in many others, is beginning to take a new aspect. Many poultry houses were remodelled, formulas for proper rations are asked for continually, and considerable culling was being done during the year. There has been no community effort to improve the flocks, but individually considerable improvement has been made. The flocks of non-descript color are being gradually displaced by flocks of the recognized and suitable breeds.

SHEEP.

Sheep production work is meeting with satisfactory response. A number of small flocks were established throughout the year and, together with the older flocks, a sheep club was organized last summer with a membership of 30.

Castrating and docking are being advocated very strongly, and demonstrations are held in spring to show how it is done. Dipping of the sheep, which was unknown in this district until last spring, is being done by a great many sheep owners.

MISCELLANEOUS.

Agricultural Short Courses.

The first, a very successful, agricultural short course, arranged for at Willingdon, was held on the 26th and 27th of February. The attendance was very large both days, which is good evidence of its necessity and value. The subjects which came up for discussion were forage crops, poultry, cereal crops, weeds, sheep, swine, registered seed and boys and girls' club work.

Assistance was also rendered with the short courses at Bonnyville and Athabasca, at which there was a very large turn-out.

Arrangements have already been made for similar short courses to be held at Andrew, Smoky Lake and Myrnam early in the year.

School Fairs.

With the co-operation of the staff from the School of Agriculture at Vermilion, two new school fairs were organized in this territory—one at Hairy Hill and the other at Willingdon. Both fairs proved to be a very great success. An organization meeting was held at Two Hills, and although an executive was elected, the fair did not operate this year.

Of the old fairs Mundare was being attended to, and again had been held as usual. All schools were visited in these three fairs at least twice a year, and talks were given to the children on the preparation of the exhibits and other phases of the fair work. Assistance was also rendered in judging at three of the fairs.

Pure-bred Sire Area.

An effort was being made to organize one or two municipalities into pure-bred sire areas. A number of meetings were held to explain the policy, and the Municipality of Norma is just about completed.

C.N.R. Community Progress Competition.

Assistance was rendered to the C.N.R. officials last summer for a couple of weeks in the municipalities of Birch Lake, Leslie, Norma, Eagle and Unity to gather information that the C.N.R. required. It may be mentioned that the Municipality of Norma, in our district, was awarded the first prize in Alberta in the sum of \$1,000.

Meetings.

Thirty-eight public meetings were held during the year on subjects relative to agriculture. Such meetings serve as a foundation for advanced work, which invariably follows in due time. As a rule, they are very well attended and are always in demand.

REPORT OF DISTRICT AGRICULTURIST, SEDGEWICK.

(H. W. SCOTT)

GENERAL CONDITIONS.

The season of 1930 opened early. Spring work on the land began the last few days of March, and some wheat was seeded the first week in April. Following the exceedingly dry summer and fall of 1929, there was no reserve moisture in the soil, but rains were general in April, and seed went into well prepared ground, germinated uniformly and rapidly, and had there been some reserve moisture crops would have continued to make satisfactory growth. Continued dry weather through May and June soon robbed the top soil of moisture, and soil drifting became quite general. Considerable areas were reseeded to green feed about June 15th, in the hope that the drifting period was past, and that rains would make possible a supply of green feed at least. Early in July rains were general, growth rapid, and ample feed for livestock resulted. Potatoes and garden stuff grew rapidly. Farm crops in the north portion of this district, where rains came the last two weeks in June, have been well above average, and the quality is good. Through the south portion of this area hail-storms in July, which followed each other repeatedly over the same large area, retarded growth to such an extent that there was practically no grain threshed which would make the commercial grades. Feed, however, is plentiful in this district also. The decided drop in selling price of all farm products except hogs, combined with the heavy cash outlay for feed brought in during the winter of 1929-30, has left the farmers and all tradesmen very short of cash and credit. Fortunately up to January 20th the winter of 1930-31 has been mild and bright.

LIVESTOCK.

The shortage of feed in 1929 caused a heavy liquidation of all saleable livestock except work horses, and the surplus of rough feed, together with the low market value of grain this year, has made an exceptionally heavy demand on this office to locate sows, breeding ewes, feeding lambs, dairy cows and feeding steers. Money for the purchase of these animals has been scarce, and credit has been decidedly restricted. Had credit been easier, it is just possible that too much livestock might have been purchased to suit a well-balanced system of farming, applicable to this district.

Eight well-bred Shorthorn bulls and one Red Poll bull, all from dams with good butterfat records, have been brought into the district this year. This indicates a definite turn towards milk and beef in a small way. The steer calves are being fed with the idea of marketing when a year old. Twenty farmers attended the Shorthorn Field Day at the University of Alberta on June 5th, and 5 attended the Holstein Field Day at the Oliver Farm.

This office arranged two field days for beekeepers at Irma during the summer. These gatherings were well attended by the beekeepers, and a good deal of valuable information was received from Mr. S. O. Hillerud, of the Department of Agriculture, from

Mr. D. Andrew, of the Vermilion School of Agriculture, and from Mr. H. W. Love, of Irma. Bees have produced well this season, and have gone into winter quarters under favourable conditions.

The poultry activities of this office are being extended each year. The Accredited Flocks Associations at Daysland, Sedgewick and Hardisty are active, growing and doing good work. The breeding pens were selected early this fall, and blood samples have been taken of all the birds by a representative of the Poultry Branch of the Department of Agriculture, and the test for B.W.D. made by the University of Alberta. The reactors have all been removed, and it is hoped that by the separation of all affected birds that the disease, which has been spreading rapidly with the increase in the use of large incubators, will be practically stamped out. All the members of the large co-operative hatchery at Killam have also had their birds tested in a similar way for B.W.D., and we believe that the mortality in young chicks will be greatly reduced at that point also. Members of the Accredited Flocks at Sedgewick this year entered single birds and pens of White Rocks in the Provincial Poultry Show, and Mrs. Thos. L. Leslie captured the cup for the best female in the show. Live poultry from this district were assembled at Killam in the fall, killed, packed and graded, and a carload of these dressed birds were shipped east, with the co-operation of the Alberta Poultry Pool.

Few good, young, light horses are seen now in this district, and as there appears to be a fair market for heavy hunters and a place on the farm for a combination horse that will ride, drive and do some of the lighter farm work, seven mares were sent to Lacombe to be bred to the thoroughbred stallion, Squire Wiggins. This stallion stands 17 hands and weighs 1,200 pounds. The outcome of the cross on 1,200-1,400-pound clean-limbed farm mares is being watched with interest.

FERTILIZER EXPERIMENT.

This office co-operated with other agencies in carrying on extensive fertilizer experiments with Triple Superphosphate and Ammonium Phosphate on forty farms between Camrose and Rosyth.

WORK WITH JUNIORS.

School fair activities were supervised from this office at nine school fair centres, embracing 91 schools with 2,045 pupils. Fourteen hundred and fifty-four pupils made 9,358 exhibits at the fairs. These school fairs are recognized by the people of the respective districts as permanent community activities, and in addition to holding the annual school fair, the associations conduct field days in sports, public-speaking contests and assist in the club programmes. The high boy and the high girl from each school fair attended the short course at the Vermilion School of Agriculture, and Miss Eunice Cameron, the winner from the Treaty Hill School Fair, was successful in winning the scholarship at Vermilion.

Teams of juniors were coached for junior competitions at the Provincial Dairy Convention at Calgary, the Edmonton Spring Show, and the Summer Exhibition at Edmonton, the Farm Boys'

Camp at Camrose Fair, and the Goose Creek Fair. Shortage of feed prevented the swine clubs from reaching sufficient strength to enter the Provincial and Dominion competitions for swine club members, but the best sows in the clubs have been retained, and we expect that this good work will continue in 1931. Some increase has been made in lamb clubs. Juniors were encouraged to attend the Co-operative Institute at Vermilion, and the district was well represented at this gathering, where the foundation principles of co-operation are instilled into those who have the privilege of attending.

MISCELLANEOUS.

This office organized and assisted at agricultural short courses at Camrose, Killam and Chauvin in February, and bacon hog short courses in October at Camrose, Daysland, Sedgewick and Holden: assisted the Agricultural Society in Sedgewick in conducting a Combined Standing Field Grain and Clean Seed Competition, a Good Farms Competition, a seed fair and a poultry show. Assistance was also given to the agricultural societies of Killam and Sedgewick in getting together in such a way that an agricultural fair will be held in alternate years by each society rather than each society holding a fair annually.

Requests to assist the Town Planning Commission in gathering information relating to farm plans; to act on the committee responsible for carrying out the Co-operative Institute programme at the Vermilion School of Agriculture; to judge at agricultural fairs; to carry on relief investigation; to address meetings on agricultural subjects; and to meet the ever-increasing demand to discuss farm problems on the farm with the operator, have been met as far as time would permit.

REPORT OF FRENCH DISTRICT AGRICULTURIST.

(J. H. TREMBLAY)

The past year being the first that a district agriculturist was looking after the French districts of the Province, most of the time was taken up visiting the different points and getting in touch with the various groups.

The districts visited were those of Beaumont, St. Albert, Lamoureux, Morinville, Legal, Vimy, Plamondon, St. Paul, Bonnyville, St. Vincent, St. Edward, Brosseau, McLennan, Donnelly, Falher and Girouxville. Many other places have requested a visit, but it has been impossible up to the present to satisfy all the demands.

In all the districts visited we have recommended going in for more diversified farming, which seems to be quite favoured. We have helped in securing different kinds of livestock in many cases, and have done some preparatory work in regard to calf and swine clubs.

Twelve public meetings were held during the summer and fall, the average attendance being approximately 140 people. In every

instance a great interest was shown by the farmers, who always put a number of questions.

LIVESTOCK.

Considerable time was taken up in purchasing different kinds of livestock, and we succeeded in starting three pure-bred herds in the district: one at Beaumont and one at St. Albert, both of the milking Shorthorn breed, and a Red Polled herd at Grouard. In addition, we have purchased through this office five Red Polled bulls and three Shorthorn bulls for different people. We are aiming to get down to just one breed in each section; for instance, in the district of Grouard as far north as the Peace River and as far west as we have supervision, namely, Spirit River, we are trying to build up a centre of Red Polled cattle. In the districts of Edmonton and St. Paul we are encouraging the people to specialize in the milking Shorthorns.

We have also purchased for different parties seven pure-bred boars and nine pure-bred sows, all of which were good bacon type Yorkshires and Tamworths.

In the sheep line we have started one flock with 14 ewes.

In poultry we have succeeded in placing 29 very good cockerels from heavy laying strains of Barred Plymouth Rocks, Leghorns, and Rhode Island Reds. We also placed 470 pullets of the same breeds.

CLUBS.

Three swine clubs have been started, at Vimy, Donnelly and Girouxville. A contribution was made by the Dominion Livestock Branch to these clubs in supplying the necessary boars. The Yorkshire breed was adopted by the Donnelly and Girouxville clubs, while the Vimy Club adopted the Tamworth.

Arrangements have been made to have a calf club at Legal and another one at Falher during the next year.

This outlines the main activities of our work from June last, when I started on this work in the Province, up to the present time.

We received a very hearty reception in every section visited, and a great satisfaction was expressed towards the Department of Agriculture for the efforts it is making to reach every farmer of this Province.

REPORT OF DISTRICT AGRICULTURIST, HANNA.

(E. G. Wood)

The year 1930 will long be remembered by the farmers in the Hanna district. Seeding operations commenced around April 15th, and at that time there was sufficient moisture to start germination, but owing to cold weather and extreme winds little growth took place. These high winds continued to well on in June, with the result that large areas of crops were completely blown out, while many were damaged to some extent. On June 20th the district

received its first general rain, and the wind blown crops made a fair recovery. Dry weather again set in during the month of July, and this was accompanied by hot winds which reduced the prospective yields to a very marked degree.

In addition to what had already taken place, the district was visited by the first hail-storm of the season on July 25th. This storm took in a large territory extending from the northwest to the southeast, and crops in its path were either completely damaged or ruined to such an extent that little more than food was obtained. Numerous hail-storms visited certain parts of the district, all bringing disaster and disappointment to the farmers. By those who were fortunate enough to escape ravages of hail and where soil conditions were such that drifting did not take place, fair yields of high quality wheat were obtained. As a climax to the many problems which the farmers, up to this point, had to contend with, the price of wheat reached such a low level that it was possible to realize but little more than operating expenses from the returns of the crop, and in many cases the sale of the wheat did not even cover harvesting costs. At the end of 1930 we find many farmers faced with financial obligations which they are unable to meet, and at the same time their borrowing power has so diminished that further credit cannot be obtained. Altogether, the year 1930 has been one of disappointments, and the district as a whole has received a set-back which will require considerable time to bring about a satisfactory recovery.

The Hanna office was reopened on April 1st after my predecessor had accepted the position of Field Crops Commissioner for Alberta. Little new work was attempted during the year, and my time was largely devoted to work which had previously been started.

Seven combined standing crop and clean seed competitions were organized in the district, but owing to hail and other adverse conditions many of these were not completed. Considerable information was given regarding the growing of alfalfa, sweet clover and grasses, and a quantity of nitro-culture was distributed from the office. Seed grain fairs were held at Hanna and Morrin, with a fair number of exhibits at both points.

Being situated in a district where sheep raising is carried on quite extensively, both as a side-line to grain farming and also as a main enterprise, it was only natural that much time would be devoted to the sheep and wool industry. As secretary-treasurer of the Eastern Alberta Wool Growers' Association, it was necessary for me to take charge of the marketing of wool. Five carloads, representing approximately 100,000 pounds of wool, were assembled at various points in the district and shipped to the Canadian Co-Operative Wool Growers at Toronto. Large quantities of wool and sheep supplies were also distributed from the office. This work brought the representative in close contact with all the sheep breeders in the district, and in this way it was possible to render valuable service.

Through the efforts of the representative buyers were obtained for 1,500 feeder lambs and a large number of breeding ewes, some

of which were shipped to Saskatchewan. Assistance was also given to farmers marketing finished lambs.

Three boys and girls' sheep clubs, which were previously organized at Youngstown, Byemore and Warden, required considerable assistance. Several new members have been added to these clubs and breeding ewes secured for them. In co-operation with the Dominion Livestock Branch, the necessary exchanging of rams among the club members was arranged, as well as having a number of new rams introduced into the clubs.

Considerable aid was given in the way of locating breeding stock and arranging the exchange of rams among the sheep breeders. In this way it was possible to give valuable service, and in many cases saved the farmers an expenditure which otherwise would have had to be made.

In cattle production an effort was made to introduce a better class of sires. By taking advantage of the Pure-bred Bull Purchase Policy, it was possible to secure three bulls which replaced grade sires. These should be a valuable asset in the district where they are placed.

Information on poultry was given to a large number of farmers. The preparing of poultry for market was especially emphasized. It was possible to include a dressed poultry show in conjunction with the Hanna Seed Grain Fair, and although the entries were not numerous, the quality of the birds was far above the average offered for sale. It is expected that this phase of poultry work will be continued in 1931. Assistance was also given in the way of encouraging farmers to enter their flocks in the One Hundred Day Egg Laying Competition. Four new flocks were included in the contest this year.

Owing to the fact that poor crops were general in most parts of the district, it was found necessary that feed be brought in to supply the needs of the farmers. Samples of feed were secured through the office, and approximately 20 carloads have been purchased by farmers and municipalities. This feed was brought in under the free freight policy.

Three specific surveys were made in connection with relief and feed, and reports submitted to the Department. Two of these surveys took place in the district and one in the Medicine Hat area. Addresses have been given at a number of agricultural society meetings, and eight different fairs were attended during the past season, where the representative either assisted in the judging or took charge of the judging of certain departments.

REPORT OF THE SCHOOL OF AGRICULTURE, CLARESHOLM.

(S. H. GANDIER, *Principal*)

GENERAL.

During 1930 the work of the various departments of the school was carried on in much the same way as for the past several years, the activities of the staff embracing instructional work during the regular course, experimentation with garden and field crops and livestock, and organization of extension projects, such as school fairs, boys and girls' clubs, fertilizer experiments, etc.

Branches of the work which have appreciably increased during the year are school fairs and co-operative experiments with fertilizers. Several new fairs were added, and several of the older fairs found it necessary to appropriate two full days for the fair because of increase in exhibits and added attractions. The fertilizer experiments conducted through the co-operation of the Department of Agriculture, the Consolidated Mining and Smelting Company and local farmers, were greatly increased, plots being established on some 25 farms.

Rainfall during the growing season was somewhat below normal, and resulted in a reduction in grain yields on the school farm and throughout the school district. Hay crops were also greatly reduced on prairie farms, but an abundance of moisture in the foothills area to the west produced a normal hay and pasture crop on the large stock ranches.

Registration of students for the winter months and again for the fall term was considerably lower than usual. This reduction in attendance is largely the result of the economic and financial depression which has existed for the last twelve months.

ENROLMENT.

Winter term registration totalled 58 students as compared with 78 for the preceding winter term. Following the summer months of general financial depression and low prices for the 1930 grain crop, a further reduction occurred in enrolment of students for the regular courses in the fall term. The register showed a total of 41 students on December 1st, which constitutes a record low attendance for the school since its inception in 1913. At the School Fairs Scholarship Short Course in July, 24 boys and 26 girls were in attendance.

HEALTH REPORT.

Both the spring and fall terms were comparatively free from illness of an epidemic nature, and few days were lost by students from classes because of sickness. One second year student, Ray Wood, of Taber, Alberta, was taken seriously ill with mastoid trouble early in January and was obliged to return home. It is with regret that I have to report his death at the General Hospital in Lethbridge, toward the end of March. The death of this student was felt particularly keenly by the student body, since he was President of the Second Year, President of the Literary Society, Grand Champion in school sports, and prominent in all student activities.

STUDENT ORGANIZATIONS.

The organizations for the handling of student activities are: Student Council, Literary Society, Athletic Association and Year Book Staff.

The Student Council functioned as usual under the guidance of the Principal, who, in accordance with the constitution, is Honorary President of the Council. The business transacted by this body was of great assistance to the Principal and staff in handling matters directly concerning the welfare of the entire student body.

The Literary Society, under the continued supervision of W. S. Benn, Instructor in English and Mathematics, had a most successful year. The Saturday night programmes were of the usual high order. The student attendance at these meetings was practically one hundred per cent. The literary programmes were open to the public, and were well patronized by the people of Claresholm and vicinity which swelled the audience to more than double the number of students.

Athletics at this school are confined largely to outdoor sports, there being no gymnasium for the use of the students. The wintry weather of November prevented the holding of the annual field day. Some special evening classes in gymnastics were organized in the fall term under the direction of W. J. Harper. Skating and hockey on our own open-air rink provided opportunity for healthful outdoor exercise during the winter months.

The C.S.A. Year Book was published during the winter term after a hard financial struggle. The Student Council and Literary Society came to the rescue with financial support. The 1930 Year Book was again a credit to the local job printers, the Claresholm Local Press, and to the editorial staff.

DIPLOMAS.

The annual closing exercises were held on March 27th, special speakers for the evening being Mrs. Louise McKinney, of Claresholm, and Dean E. A. Howes, of the College of Agriculture, Edmonton. Splendid and inspiring addresses were given by both

speakers. Diplomas were granted to the following students who had successfully completed the work of the regular two-year course:

Home Economics—Margaret Wright Carruthers, Grassy Lake; Ellen Catherine Erdman, Barons; Jessie Lamb, Claresholm; Winnifred Lucinda Monner, Milo; Alice Rosetta Newton, Dalemead; Alberta Minola North, Strathmore; Wilma Isabel Scott, New Dayton; Alice Pauline Ulsten, Champion; Margaret Albina Wight, Mazeppa.

Agriculture—Ira Freeman Anderson, Claresholm; Theodore Mynott Allen, Taber; Ronald Barlow, Liverpool, Eng.; Elmer Charles Conrad, Taber; Ralph Lembit Erdman, Barons; Hans Alwin Ellingson, Nobleford; William Neil Gray, Meadow Creek; Edmond Louis Green, Iron Springs; John Harbinson, Taber; Ronald Allen Hole, Twin Butte; Ellwood Ronald Irwin, Barons; Herbert William Rogers, Iron Springs; Martin Lundgard, Claresholm.

SCHOLARSHIPS AND MEDALS.

Award of scholarships, medals and prizes to regular course students took place at the closing exercises in March. Following are the more important awards:

The P. Burns Scholarship of \$50.00, to the student of the First Year Home Economics Class who, by vote of the staff, was considered to have made the greatest use of her educational opportunities during the school year, having at the same time made useful contribution to the various student activities—Awarded to Harriet A. Discher, Vulcan, Alberta.

The P. Burns Scholarship of \$50.00, to a student of the First Year Class in Agriculture (same conditions as above)—Awarded to John Primrose, Purple Springs, Alberta.

General Proficiency, First Year Home Economics, prizes donated by the Calgary Herald—1, Margaret Sundquist, Stavely; 2, Harriet Discher, Vulcan.

General Proficiency, First Year Agriculture, prizes donated by the Calgary Herald—1, Rees Evans, Claresholm; 2, Melvin Johnson, Picture Butte.

Silver Medal for General Proficiency, Second Year Home Economics—Awarded to Margaret Wight, Mazeppa.

Silver Medal for General Proficiency, Second Year Agriculture—Awarded to Ronald Hole, Twin Butte.

Bronze Medal for highest standing in Stock Judging, First Year—Rees Evans, Claresholm.

Silver Medal for highest standing in Stock Judging, Second Year—Ronald Hole, Twin Butte.

Lethbridge Herald prizes for essays on "The Control and Eradication of Weeds in Southern Alberta"—1, Rees Evans, Claresholm; 2, Ellwood Irwin, Barons.

National Elevator Company Trophy for highest standing in Field Husbandry in the Second Year—Awarded to Hans Ellingson, Nobleford.

A large number of lesser prizes were also awarded.

SPECIAL CLASS PERIODS.

From the commencement of the fall term, 1929, certain special periods have been added to our schedule of classes to provide for instruction which, up to that time, seemed more or less neglected. These experiments have been attended with varying success.

The Supervised Study Period for all first year students (one period per week) has worked out successfully, and will be continued as a regular part of our programme. In this period, points of special difficulty in all subjects are dealt with. The instructors also take up with the students in a diplomatic way those ordinary rules of social etiquette in which many of our rural boys and girls are apt to be uninformed. Methods of study, of preparation for examinations, in fact anything likely to be helpful to the students in rounding out their course at the School of Agriculture, are

given attention. We now consider this period one of the most important on our first year schedule.

Another experiment of the winter term was one period per week with the Home Economics classes devoted to music. This school was fortunate in having on its staff two members with some training in music, S. O. Hillerud and W. S. Benn, who undertook the instructional work. The idea was not to give music lessons, but to give the students something of the principles underlying musical instruction, and to develop to some extent a taste for the better class of music. Some students were keenly interested and derived considerable benefit from the course. Others of a less musical nature did not seem to get much out of it. The experiment was discontinued in the fall terms because of Mr. Hillerud's absence.

Another innovation is a regular daily fifteen minute period of physical training for all men students between the two afternoon laboratory periods. This was commenced in the winter term of 1929. It was considered that young men from our country districts who have been working hard at farm work and have had little opportunity to participate in athletics, require some sort of systematic exercise during the school term, and this period provides to a small extent at least for keeping the boys in good physical trim. This is a compulsory period, and we are convinced that the boys derive real benefit from it.

ALUMNI ASSOCIATION.

More interest in alumni matters has been in evidence amongst the ex-students during the last two years than ever before, apparently because of the possibility that the Claresholm and Raymond schools may be amalgamated at some other point. A two-day reunion was held on July 24th and 25th, nearly two hundred boys and girls signing the register. It was decided at that meeting to dispense with the winter reunion until economic and financial conditions throughout the country were more nearly normal.

SCHOOL FAIR SHORT COURSE.

Boys and girls of the C.S.A. School Fair district, who obtained the highest total of points at their respective fairs in 1929, arrived at Claresholm on July 12th for the short course of one week which is offered annually by the Department of Agriculture. Twenty-four boys and 26 girls constituted a full attendance from all points. Temporary boarding and dormitory accommodation was provided in the main building. Ideal weather conditions made it possible for the programme of classes, games and entertainment to be followed throughout the week as per schedule. All of the boys and girls seemed to appreciate thoroughly their trip to Claresholm, and the week of instruction and play. Following the tests at the close of the course, John Moore, of Calgary, and Minnie McNicoll, of Scandia, were declared winners of the Department's special scholarship of one term, with all expenses paid, at the School of Agriculture.

SCHOOL FAIRS.

The setting up of new organizations was completed much earlier than in former years, with but one new fair centre being created. Supplies of seed and other materials were thus in the hands of the various school fair secretaries in ample time for early distribution. The school fair workers, W. S. Benn and Miss G. M. Pokotilo, had a most successful season visiting the schools during the months of May and June.

In pursuance of plans made last year to enlarge the scope of the work of giving instruction to school fair competitions along agricultural and home economics lines, meetings were held at Carseland and Foothills school fair centres. The children, teachers and parents of all competing schools attended the meeting in their respective school fair district. The children were away from their schools for one day, but they received very useful talks and demonstrations, and had taken part in an inter-school athletic meet. Demonstration and chart lectures were given in Animal Husbandry, Vegetable Gardening and Home Economics by W. S. Benn, W. J. Harper and Miss Pokotilo. It is felt that these longer and more complete chart talks and demonstrations are necessary to meet a growing demand on the part of the children and parents for more advanced knowledge along the lines of agriculture and home economics. It is hardly possible to cover a large territory satisfactorily by visiting each school individually. It is felt that the instruction that it is possible to give is entirely inadequate for the needs of present-day agricultural communities. As was pointed out, this was an experiment, but it bore fruit in creating much keener competition and much higher quality of exhibits at the fair. It is planned to extend this feature of our extension work so that in time it may cover our whole district where possible.

The "two-day" fair is meeting with splendid success and, in fact, new and special features and competitions have so enlarged the programmes at many fairs that the "two-day" fair is necessary. The greatest number of these special features are in the nature of competitions in spelling, singing, elocution, dramatics, and physical training; thus they add materially to the work done by the teachers in these subjects in the rural schools.

The fairs were held during September and October. On account of early September snowstorms, a few postponements were necessary, and several fairs were held under adverse weather conditions, but no fairs were cancelled. Notwithstanding such conditions, we experienced what we consider our most successful school fair season. It is gratifying to note here the increase in keen rivalry, high quality of exhibits in all departments, well considered new features and unusual interest in the exhibits and in the general conduct of the fairs. Parents and children are showing very keen interest in the short talks and demonstrations given by the judges. The adults especially appear to find here a very profitable source of information.

The exhibits were judged by two crews from the Claresholm School of Agriculture, consisting of W. S. Benn, J. L. Eaglesham,

W. J. Harper, W. Robinson, Miss F. C. MacIntyre and Miss G. M. Pokotilo.

New fairs are in process of organization at Okotoks, High River, Gleichen and Schuler for the fair season of 1931. All of the old fairs are either solvent or in good shape financially.

Plans for a school fair convention are being held up on account of failure to solve the problem of travelling expenses.

FIELD HUSBANDRY.

Climatic conditions: The climatic conditions for the year 1930 were fairly favourable to crop production, for although precipitation was below the average, it was well distributed. On the other hand, conditions were such that the district suffered great losses of trees and shrubs.

January was a normal month, relatively cold and with a fair covering of snow on the ground. February and March, however, were quite open with many warm chinook winds, which alternated with short cold periods. This alternate freezing and thawing, accompanied by drying winds, was the cause of much winter-killing among trees and fall sown crops. April was relatively cool and moist. May, June and July were excellent growing months; the total precipitation between April 15th and July 26th being 8.10 inches. The last killing frost in the fall was on September 25th. The frost-free period was 124 days. August was generally clear and warm, providing good harvest weather. September was relatively cool with frequent rain and some snow, making threshing operations difficult. October, November and December were, in the main, bright and open with frequent chinook winds. A fall of 19½ inches of snow in November was the only event of note. This snow soon melted, and the New Year found the ground quite bare. The total precipitation for the year was 14.59 inches. This is 4.445 inches lower than 1929 and 2.55 inches below the average for the previous sixteen years. The precipitation by months is given below:

January, 0.45; February, 0.45; March, 1.12; April, 1.79; May, 1.27; June, 2.12; July, 2.93; August, 0.56; September, 2.26; October, 0.53; November, 1.26; December, 0.05.

General Crop Conditions: The crops in the immediate vicinity of Claresholm were fair in yield and of excellent quality, a high proportion of wheat grading No. 1 Manitoba hard. Hay yields were light with no aftermath. The general weed situation in the district is improving, not so much in reduction of infestations as in the increased interest in the subject.

The School Plot Experiments: The testing of various crops as to yield and general suitability was continued as in the past. This work included varieties of spring and winter wheat, oats, barley, flax, corn, potatoes and various forage crops. The testing of tobacco was started this year with very encouraging results.

Investigations in cultural practices concerning wheat, alfalfa and sweet clover were continued. Two new rotation experiments were added this year, making a total of sixteen tests now under way.

A great deal of the Agronomist's time was taken up with co-operative fertilizer experiments on some 25 farms from Cayley south to Macleod and east to Barons.

HORTICULTURE.

The school orchard is now attaining the stage where definite fruit yields can be taken from a number of trees, and there are about 35 young trees established that will be of bearing age in a few years. A number of new trees were planted in 1930 to fill up gaps and to increase the number of varieties. The school wind-breaks suffered very severely from the drying winds of February and March, more than one hundred trees being completely killed.

THE SCHOOL FARM.

Crop yields on the school farm were fairly high, despite dryness of the summer. One hundred and ten acres of oats averaged 50 bushels per acre, the grain being of good quality. Fifteen acres only were planted to barley, since a substantial carry-over from 1929 was on hand. The yield from this 15 acres was 475 bushels, or 32 bushels per acre. Of the 30 acres sown to fall wheat in 1929, 9 acres winter-killed. The remaining 21 acres gave a yield of 35 bushels per acre. This grain is still on hand, and is being fed to the livestock, since its market value is very low. The alfalfa crop was light due to drought. Both cuttings yielded a total of 25 tons, as compared to the usual 50 to 60 tons. The light yield of oat straw has aggravated the feed situation, and as a result a slight shortage of roughage is imminent—the first for several years. Pasture suffered severely from dry weather, and a shortage was felt about the end of July. It is hoped, however, that no permanent harm has been done, and that it will recover next spring.

Horses: There are twelve head of work stock and one yearling colt on the farm. No foals were born in 1930. All farm work is carried on with these animals. They are nearly all young and a fair class of agricultural stock.

Cattle: The only cattle on the place at present are Ayrshires, about 40 head of this breed being kept. A few of the poorer individuals have been sold during the past year, and their place is being taken by younger and more valuable stock.

The imported herd sire is consistently producing high-class calves. None of his heifers are yet in production, but all show exceptional promise. Nine calves have been born into the herd this year, and as a result disposal of surplus stock must soon be undertaken.

Several R.O.P. certificates have been received during 1930. The most notable is that of a three-year-old heifer which, in a 305-day test, produced 12,500 pounds of milk and tested about 4.3 per cent.

Nine animals were sent to the Calgary and Edmonton exhibitions in 1930. They annexed 29 ribbons, including two grand championships. Two bulls were sent to Toronto. The herd sire,

South Craig Prince John, was placed third, and a male calf from this bull placed eighth.

Sheep: A flock of 36 pure-bred Shropshire ewes gave a lamb crop of 21. This was due to several old and inferior ewes being on hand. The flock has since been culled to 22 head, and it is intended to keep it at this level in future, the poorest stock to be sold each year. The shearing average was 10 pounds. A new ram was purchased from John Wilson, of Innisfail. This animal, an XXX shearling, should be of value in setting breed type in the flock. Seven ram lambs were sold at the Lethbridge Sheep Sale. Prices were disappointing, due to the slump in the sheep market at that time.

Hogs: Four Yorkshire sows dropped 30 pigs in the spring. The gilts from these litters were all sold for breeding purposes early in the fall. The barrows were all marketed, all but two grading either select or bacon. In the fall 2 sows dropped 12 pigs, which are on hand at present.

Poultry: Poultry work is at a standstill, awaiting housing accommodation. A few birds are on hand for classroom work, but no flock work can be undertaken at present, since there are no poultry houses on the farm.

PIG CLUBS.

Two pig clubs were under the supervision of this school in 1929, but one of them, that of the Claresholm district, could not be reorganized in 1930, due to lack of local interest. The High River Club was carried on under a very small membership, and it is doubtful whether it will reorganize in 1931. A judging team from this club entered the Provincial competition at Edmonton and gained eighth place in a class of 24.

REPORT OF THE SCHOOL OF AGRICULTURE, OLDS.

(JAMES MURRAY, *Principal*)

STAFF.

The members of the teaching staff at the Olds School of Agriculture and the subjects they teach are as follows: James Murray, B.S.A., Principal and Field Husbandry; G. R. Holeton, B.Sc., Mechanics; A. T. Kemp, B.S.A., Horticulture, Botany and Practical Field Husbandry; E. W. Phillips, B.S.A., Animal Husbandry, Farm Management and Co-operation; F. F. Parkinson, B.Sc., Engineering and Electricity; C. E. Yauch, B.S.A., Chemistry, Physics and Entomology; Hugh McPhail, B.A., B.S.A., English and History; Miss A. Scott, Sewing; Miss M. C. King, B.Sc., Cooking and Laundry; Miss M. H. Cox, B.H.Ec., Cooking and Household Administration; Miss R. Elves, R.N., Nursing; Worthy Hoover, B.Sc., Mathematics and Civics; M. W. Malyon, B.S.A., Poultry, Dairying, English and Mathematics; C. H. H. Sweetapple, Veterinary Science; F. H. Budgeon, Practical Mechanics; R. E. Gibson, Physical Training and English; Miss Lilian Rogers, Matron and Dietitian.

ENROLMENT.

The number of students is somewhat lower than in recent years, but considering the present depressed economic condition is as good as could be expected. The total enrolment of 145 is divided as follows: First Year Agriculture, 54; Second Year Agriculture, 37; First Year Home Economics, 28; Second Year Home Economics, 9; Third Year, 17.

While students are admitted at 16 years, and we have a few at this age, the majority are three to four years older. The more mature students have a better appreciation of the work and make more desirable students. This year we have three young ladies taking the regular course in agriculture, including such practical work as carpentry and blacksmithing.

DIPLOMAS AWARDED.

At the closing exercises held on March 28 diplomas in agriculture were awarded to 50 men who had successfully completed the two-year course, and diplomas in Home Economics to 12 young women.

SCHOLARSHIPS, PRIZES AND MEDALS.

At the closing exercises in March the awarding of all of the scholarships, prizes and medals for the work of the school year was announced, and the presentations made. Friends of the school have been very liberal in offering prizes as a further inducement to interest students in their work, and we greatly appreciate this assistance.

STUDENT ORGANIZATIONS.

The various student organizations have been active during the term, each playing its own part in carrying out the work of the school. The Students' Council, in co-operation with the Principal, is largely responsible for student discipline and also for the organizing of all the other societies. The Literary Society arranges for the programmes of the weekly meeting on Friday afternoon. This programme consists mainly of readings, debates and musical numbers. They also arrange for the preparation of the weekly school paper, *The Chinook*, which is read at the close of the literary programme.

The Athletic Association takes charge of the field day, the rink and the organization of football and basketball teams, as well as other indoor athletic activities.

The officers of these organizations change at the middle of the school year, so that a large number of students have the opportunity of serving on the various committees. This experience is bound to be useful to them in after life.

FARM WOMEN'S WEEK.

At the request of several women's organizations a Farm Women's Week was arranged at the school from July 14 to 17. This is the first year that anything like this has been attempted, and we are quite gratified to have an enrolment of 34. Practically all of those in attendance were farmers' wives from the central and southern parts of the Province. The programme for the week was arranged in such a way as to allow considerable free time, but several hours each day were allotted to regular lectures in sewing, cooking, horticulture and allied subjects.

At the close of the week a banquet was held, at which Dr. Hartman and Mr. F. S. Grisdale, M.L.A., were the speakers.

All of those in attendance appeared to be delighted with their week's experience. Many of them expressed themselves as having found it both profitable, pleasant and restful, and hoped to be able to attend a similar course next year should one be arranged.

INSTITUTE OF CO-OPERATION.

Following the success of 1929, the Alberta Institute of Co-operation arranged its annual summer convention for the 2nd, 3rd and 4th of July. There were at the meeting 129 registered as junior members and 129 as senior members. The junior members were selected from the different U.F.A. locals of the Province and from the Alumni of the O.S.A., and had their travelling and living expenses paid.

While the programme was not as long as the previous year, a number of addresses were given by speakers from Eastern Canada and United States as well as from Manitoba, Saskatchewan and Alberta. Interest was well maintained throughout, and all of those who attended appeared to enjoy themselves.

A banquet was provided on the evening of July 3rd, at which the principal speakers were the Hon. R. G. Reid, Provincial Treasurer, and Mrs. W. H. Warr, President of the U.F.W.A. Alfred Speakman, M.P., acted very acceptably as chairman.

A dance on the evening of the 4th brought a very successful convention to a close.

MEDICAL EXAMINATION.

A complete physical examination was given each of the students at the beginning of the fall term. The most marked findings were: 62 students were observed to have unhealthy or enlarged tonsils, many of them the result of faulty enuciation, and many of them discharging; 7 students had unhealthy gums, and 19 required dental attention. There were 3 cases of impetigo found, and 1 pronounced hernia requiring attention.

The examination of eyes showed that 28 had an average vision only five-tenths normal; 14 students had heart conditions, 7 with a mitral murmur, 5 with enlarged heart, 2 with an aortic murmur and 1 pulmonic murmur.

One student was found to have symptoms suggestive of tuberculosis. To make absolutely sure of the diagnosis, he was taken to the Sanitarium, where he was examined, X-rayed and pronounced an active case of pulmonary tuberculosis. He was sent home, where he is receiving treatment.

Many of those whose eyesight was below normal have been fitted with glasses. Where surgical treatment was required the parents were notified, so that the necessary steps might be taken. The results of the examination have been well worth while, as students have been able to take measures to correct physical defects which were interfering with their health and progress.

We have been very fortunate so far this year in avoiding serious illness among the students. There have been a number ill for short periods with colds, etc., and one case of chickenpox.

THE DEMONSTRATION FARM.

The season was not a favourable one for crop production owing to shortage of moisture at critical times, unduly high winds in early summer and an unprecedented amount of hail. The damage from drifting soil was more severe through central Alberta than ever before, many farmers losing their crop from even two seedings. Others had it badly damaged so that it ripened very late or was cut for green feed. On the school farm there was no loss from soil drifting due to our fields being comparatively small and to the fact that the growing of grasses has kept the soil well supplied with fibre.

During the growing season, April, May, June, July and August, we registered only 9.03 inches of rain. The total for the year was 10.41 inches and the total precipitation was 13.79 inches, nearly five inches below the average. In spite of the scarcity of moisture we had a prospect of a fair crop until July 25th, when a severe hail-

storm cut off nearly everything. Only a small field of wheat and part of a barley field was worth cutting, and the yields there were reduced more than half.

With good growing weather for two months after the hail-storm there was sufficient recovery of the oats and sunflowers to enable us to fill the two silos and cut a good tonnage of green feed of fair quality. We were left, however, with practically no straw and very little grain, so that for our stock we have had to do considerable buying. Potatoes and roots were a fair crop and they were harvested before the severe weather in early October, when the thermometer dropped to nine below zero.

LIVESTOCK.

The horse population of the farm has been considerably reduced as 11 head have been disposed of during the year.

The Shorthorn herd has shown a satisfactory increase, as the calf crop has been the best for some years. The two imported bulls are throwing some excellent calves from the good cows in the herd. The herd now consists of 56 head, made up as follows: 27 cows of breeding age, 7 yearlings and two-year-olds and 20 under a year.

The Guernseys consist of 4 cows, 1 yearling heifer and 2 bulls. Two bulls were sold for breeding purposes during the year. There were also 9 grade cows, 4 of Holstein breeding, 3 Guernseys and 2 Shorthorns.

A carload of Hereford steer calves was bought and fitted for the Royal Winter Fair at Toronto, where they stood third in a strong class. Two Shorthorn steers bred at the school also got in the money. There is now on feed a carload of Shorthorn steer calves which it is the intention to show next November at Toronto.

Horses: There are now 21 head on hand classified as follows: 8 mature mares and geldings, 4 three-year-olds, 5 two-year-olds, 2 yearlings, 1 saddle pony and the Percheron stallion Job.

Yorkshire swine are kept. At present we have on hand 7 sows, 1 boar and 23 head of young stock. We also have 5 head of Yorkshire-Tamworth crossbreeds. During the year 6 boars and 9 sows have been sold for breeding.

The flock of Shropshires was cut down somewhat in the fall, so that we now have on hand 41 ewes, 16 ewe lambs and 1 ram. The ram that has been in use for two years was shipped to Youngstown, and one bought from John Wilson & Son, Innisfail, to head the flock.

BEEES.

Two three-pound packages of bees were received and hived on May 21st. One hive was placed on the scales and given drawn comb throughout the season. The other hive was given plain foundation. For the first two weeks the bees were fed sugar syrup made by mixing equal amounts of sugar and water. Feeding was discontinued on June 5th, as the bees were getting a good flow of nectar at that time from the blossoms on the fruit trees.

Gains in weight were first made from the 4th to the 10th of June, at which time the bees were visiting the blossoms of gooseberries, currants, sandcherries, apples, tulips, and dandelions. During June and the early part of July the honey flow was very light, but good gains were made during August and the early part of September. The greatest gain, 9 pounds 14 ounces, was made on September 17th, and from that date on losses were recorded.

Two supers were removed from each hive in the early part of September, and the honey from these was extracted. The hive in which foundation was furnished yielded 117 pounds 7 ounces, and that in which they were furnished drawn comb yielded 120 pounds 13 ounces. The honey was of a light amber color and of excellent quality.

Acting on the advice of the Provincial Apiarist, the bees were not wintered. The queen in the drawn comb colony was killed on August 29th and the queen in the foundation hive was caged. A few days later the queen cells in each hive were destroyed. The destruction of the queens did not seem to demoralize the colonies, as they continued to make good gains for several weeks. When the colonies were killed with cyanide early in October the brood chambers were in good shape, there being no young brood killed in the cells.

SCHOOL FAIRS.

School fairs have become an established factor in the educational training of Alberta's youth, and an increasing interest is being shown by parents and directors each year. In the 1930 season seeds were distributed to the pupils of 44 fair centres in the Olds territory, and 42 very successful fairs were held. The fairs at Cochrane and Dog Pound were cancelled owing to cases of infantile paralysis.

The fairs at Asker and Fleet were revived, and a new centre, Rimbey, was organized in connection with the agricultural fair at that place.

Drought conditions were a handicap to many districts, but in spite of this, the number and quality of exhibits were well up to standard, the grain and corn exhibits being better than usual. An increased attendance by parents was also noticeable.

The special prizes do much to encourage interest and effort on the part of pupils in their fair work. The list of special prizes includes:

1. Department of Agriculture diploma.
2. Department of Education diploma.
3. Department of Education, book prize.
4. Short Course Scholarships.
5. Agricultural School Scholarships.
6. Baking Powder Company, special prizes.
7. Shorthorn Breeders' prizes.
8. Supervisory Weed Board's special prizes.

In addition to these, at certain centres, special cups, medals, etc., are offered by enterprising citizens of the district.

During the spring months the schools of 22 centres were visited by representatives of the School of Agriculture.

The 44 fair centres totalled 447 schools, 10,811 pupils entered, and 43,360 exhibits shown.

The fair work of 1930 showed a healthy growing condition, and it is to be hoped that the present depression will not have any serious effect.

SCHOLARSHIP SHORT COURSE.

The short course for the highest scoring boy and girl from each school fair was held at the Agricultural School for the week July 7th to 12th, 1930. It was attended by 39 girls and 40 boys.

The course consisted of laboratory work of wide range, well interspersed with games and recreation and entertainment each evening. This course gives the pupil a fair idea of the general character of work carried on in the regular term at the agricultural school, and it is pleasing to note that many of these short course pupils later come back for the regular courses.

The Agricultural School Scholarships, which are awarded to the boy and the girl scoring highest at the short course, were won by Sadie McComb, of Huxley, and Archie Lockhart, of Innisfail. Both are attending the Agricultural School this year.

These short courses and Agricultural School Scholarships have the effect of linking up more closely the School of Agriculture with the people of the various communities through their school fairs.

GIRLS AND BOYS' LIVESTOCK CLUBS.

The past year was the most successful as yet in the conduct of this extension activity. The swine clubs at Red Deer and Innisfail and the dairy calf club at Olds were continued and built up to greater strength. At Red Deer there were 29 club members, handling 76 grade feeder pigs and retaining 13 pure-bred gilts for breeding purposes. At Innisfail there were 38 members, with 76 grade pigs fed out, and 14 gilts retained. At both points a considerable amount of pure-bred stock has accumulated from sows put out in previous years, the Yorkshire being the breed used, both as pure-breds and grades. Judging demonstrations were given during the summer and the individual members were visited from time to time to check up on the progress made and to give advice regarding feeding, care and management.

Successful club shows were held at both places, and the hogs were disposed of to good advantage.

Judging and demonstration teams from both points attended the central competitions at Edmonton, and gave a very good account of themselves. The prospects for an extension of this work in these districts in 1931 are very good.

The club at Olds, working with grade and pure-bred Holstein heifer calves, also had a prosperous year. There were 34 members, who together showed 25 junior calves, 5 senior calves and 4 pure-breds at the club show in July. The local judging team took second place in the competition at Edmonton.

Judging demonstrations, a trip to Hay's dairy at Calgary, a large banquet with distribution of prizes, etc., were some of this year's activities.

This type of extension work could be considerably extended in this section, providing a sufficient number of the right kind of calves could be obtained.

VISITORS, PICNICS.

The wisdom of those who planned and planted the grounds years ago is becoming more evident each succeeding season. The avenues and groves of spruce draw many favorable comments particularly at the time of year when the deciduous trees are bare.

The perennial borders are a source of pleasure to many visitors, who find in them a means of beautifying their home grounds at a minimum expenditure of money and labor. The beds of annual flowers, which this year remained undamaged by frost until October, drew forth many favourable comments from visitors from far and near.

From spring until fall many visitors inspected the grounds, orchards, gardens, experimental plots, livestock, farm and buildings. A number of organized picnics were held by various types of farmers' organizations. One of the largest in attendance was that of the Shorthorn breeders, who visited the school on July 5th. A basket lunch was enjoyed in the shade, the Shorthorn herd was inspected, and afterwards an audience of 200 listened to addresses by Prof. G. E. Day, Secretary of the Association, and Mr. H. A. Craig, Deputy Minister of Agriculture. Many other smaller groups were welcomed and shown the departments in which they were mainly interested.

POULTRY.

During the summer a poultry house 20 feet by 60 feet was built. This will enable us to house and properly care for a flock of about 300 birds. We now have about 200 Barred Rocks, which are being trap-nested with the object of breeding from the most productive birds.

HORTICULTURE.

We are glad to report continued progress in the growing of small and tree fruits. The orchards and other fruit plantations attract widespread attention from visitors, our success here, modest as it is, stimulating others to enter the field of growers of fruit for home use.

As usual, excellent crops were produced of red, white and black currants, gooseberries, and fair crops of raspberries and strawberries. The standard crab-apples, Transcendent and Hyslop, gave good yields, and the standard varieties, Hibernial, Whitney, Patten's Greening and Ostrakoff, also produced some fruit. The fruit was well matured, but was damaged in appearance by two hailstorms.

A few pounds of several varieties of plums, Sapa, Opata and Chersota, were secured from trees just coming into bearing. St. Antony and Campa sand cherries also fruited.

Last spring we received a very acceptable donation of fruit trees from Mr. W. T. Macoun, Dominion Horticulturist, Ottawa. The collection included the following: Roslin, Hiekal, Redman,

Neville, Rosilda, Columbia and McPrince. A few were also added from commercial nurseries.

A valuable collection of named varieties of Peonies were received from Prof. T. G. Bunting, Macdonald College, Quebec. The Macdonald College collection is known from coast to coast, and this donation, from such good varieties, will greatly strengthen our limited collection here.

EXPERIMENTAL UNION.

The O.S.A. Experimental Union was even more active during the past year than previously. The membership was increased to somewhat over 900, and the samples sent out totalled 4,542. These consisted of samples of good varieties of wheat, oats, barley and peas; collections of perennial flowers; samples of potatoes; several varieties of home-grown vegetable seeds; seedlings of several desirable types of trees and shrubs; and a limited number of flower seed collections.

A small membership fee of 50c was charged, and this has enabled us to enlarge the scope of the work.

Blank forms were sent out to all of those who received material in the spring, and satisfactory reports were sent in by about one-third of those who got material. A great majority of those who reported expressed themselves as being well pleased with the material they received, and look forward to joining the Union again this year.

The annual seed fair of the Experimental Union was held at the school on January 5th, and was one of the most successful in its history. There were 24 individual exhibitors and about 70 exhibits. The judging was done by Mr. F. H. Reed, of Lacombe, and Wilfred Robinson, of Claresholm. Mr. Harold Phillips, of Langdon, was again elected president.

FERTILIZER EXPERIMENTS.

Under the general direction of the Field Crops Branch, 34 phosphate fertilizer experiments were conducted on farms in this district. The area covered extended as far south as Carstairs, as far north as Penhold, and as far east as Huxley.

With a few exceptions, 6 plots were seeded on each farm as follows:

Two check or unfertilized plots.

Ammonium phosphate was used on 2 plots at two different rates, viz., 45 and 90 pounds per acre.

Triple superphosphate was used on 2 plots at two different rates, viz., 50 and 100 pounds per acre.

The experiments included the three grain crops, wheat, oats and barley. The fertilizer in each case was deposited in the drill run with the grain, a special fertilizer drill being used.

Two inspections were made of the growing crop during the summer, and as a result 9 of the experiments were discontinued because of extreme drought, wind and hail injury.

The plots were harvested by selecting 10 places in each plot and then cutting two rod rows at each location. The sheaves from each plot were put in a large bag, dried and sent to Lacombe for threshing.

The fertilized plots in practically every case ripened from five to seven days earlier than the unfertilized. One of the fertilized wheat plots showed an increase of thirteen bushels per acre over the check plot, but on the other hand some of the fertilized plots actually yielded less than the unfertilized. In the Huxley district, where the crops suffered very severely from drought, the fertilized plots appeared to suffer more than the unfertilized.

O.S.A. EXTENSION LIBRARY.

The O.S.A. Extension Library Association is continuing its valuable service in supplying reading material to the students at the O.S.A. and to its members in many parts of the Province. The association is controlled by a board of governors composed of members of the staff of the Agricultural School and a number of others who are interested in library affairs.

Previous to November, 1930, the library had been operated without close supervision, but an inventory during the summer months showed that many books were being lost. Since November 1st a part time assistant librarian has been on duty to register all books taken out and returned. As time permits the assistant repairs damaged and worn books.

The total number of books accruing during the year was 896. During the first three months of the year the circulation of books was 2,190, while during November the circulation numbered 736.

ALUMNI ASSOCIATION.

This association of ex-students continues to give its loyal active support. During the year 1930 over 6,000 copies of the "News" was mailed out to members scattered from Victoria in the west to Ottawa in the east, to Hythe in the north and many places in the States to the south. This paper, published monthly, is kept up by voluntary subscription of ex-students.

The President of this organization, Mr. T. Sigurdson, now serving his third term in that office, was the first student to enroll in the institution, and is one of the progressive farmers in Alberta. The other executive officers are scattered over the Province, but gather together when necessity requires.

The two meetings of the year, held in January and July respectively, were fairly well attended considering the existing economic conditions. At the summer meeting Dr. Thornton, Professor of Dairying, University of Alberta, was the chief speaker. At the January meeting Alfred Speakman, M.P., was the guest speaker.

The association is a distinct asset to the school, as it forms a valuable connecting link between it and the country.

REPORT OF THE SCHOOL OF AGRICULTURE, RAYMOND.

(O. S. LONGMAN, *Principal*)

The teaching staff at the Raymond School of Agriculture consists of the following members: O. S. Longman, B.S.A., Principal; D. L. Gilbert, B.S.A., Instructor in English, Mathematics and Horticulture; C. O. Asplund, B.S.A., Instructor in Animal Husbandry and Poultry; W. G. Smith, B.Sc., Instructor in Field Husbandry and Botany; K. H. Walker, B.Sc., Instructor in Science; S. C. Acheson, B.S.A., Instructor in Farm Mechanics; W. L. Jacobson, B.S.A., Instructor in Irrigation; A. N. McDonald, Instructor in Dairying; Wilfred Burnett, Instructor in Carpentry; Miss Emma Petersen, Instructress in Home Economics; Miss I. K. Riis, B.H.Ec., Instructress in Home Economics; Miss E. C. Davidson, R.N., Instructress in Home Nursing. Miss I. K. Riis was transferred from the Vermilion School to fill the vacancy created by the resignation of Miss Jessie Redig. Miss Redig very ably occupied the position of Instructress in Home Economics for a period of four years.

ENROLMENT.

The number of students enrolled for the 1930-31 term is 79. This is a decrease from last year's attendance. The students were registered in the various school classes as follows: First Year Agriculture, 36; Second Year Agriculture, 12; "Two-in-One Students", Agriculture, 4; First Year Home Economics, 11; Second Year Home Economics, 11; "Two-in-One Students", Home Economics, 5; total, 79.

Had it not been for the depressed value of farm products the registration would have undoubtedly been very satisfactory. During the summer months the extension work conducted by the school staff made it possible to get in touch with many prospective students, and thereby materially strengthening our attendance.

COURSE OF STUDY.

The course of study offered by the Raymond School of Agriculture has been given in accordance with the outline given in the School Calendar, with the possible exception of Veterinary Science. For the present year at least this work is being given by the instructor in Animal Husbandry. In view of the elementary nature of the course, it was felt that this method of presentation would be more satisfactory and decidedly more economical.

IMPROVEMENTS.

During the summer months much needed improvement and repairs were made by the Public Works Department about the in-

stitution, which included the laying of 3,000 feet of sewer pipe, repairing and rebricking the heating plant and the re-decoration of the interior of the main school building.

EXTENSION WORK.

The extension work supervised by members of the school staff in the Raymond territory during the summer months included: (a) The organizing and supervising of school fairs; (b) supervision of swine and sheep clubs; (c) supervision of experiments with chemical weed eradicators; (d) the supervision of commercial fertilizer experiments conducted with grain; (e) the supervision of commercial fertilizer experiments with sugar beets.

The supervisors of the aforementioned activities were: Messrs. D. L. Gilbert, C. O. Asplund, W. G. Smith, O. S. Longman, and K. H. Walker respectively.

SCHOOL FAIRS.

School fairs in the Raymond district are gradually progressing, and with one exception showed a marked increase in total entries over that of last year. The parents seem to be taking more interest, as do the older sisters and brothers, as shown by the marked increase in attendance.

Five new fairs were added to our list, those of Wrentham, Foremost, Etzikom, Bow Island and Barnwell.

Three new fairs are being organized this year, Grassy Lake, Burdett, Seven Persons, and a group of rural schools south of Taber will make up the third.

SCHOOL FAIR SHORT COURSES.

The school fair short course was held in July, from the 7th to the 12th inclusive. This continues to be an inspiration to the numerous boys and girls that are fortunate enough to participate in it. One young girl had never ridden on a train before, and the Raymond School grounds were to her a revelation; this is a single instance of the educational value of such a course.

Lena Blair, of Milk River, and Harold Risinger, of New Dayton, were the scholarship winners.

SWINE CLUBS.

Swine clubs were organized again at Hillspring and Glenwoodville. Considerable difficulty was encountered in obtaining stock for these clubs, much of it having to be trucked in from Calgary. A team from each club was sent to Edmonton for the Provincial competition.

SHEEP CLUB.

A pure-bred Rambouillet Sheep Club was organized at Magrath. This club is unique in that it is the first junior sheep club to be organized in this part of the Province, and is the only Rambouillet

Club in Canada. The club fair was held in connection with the local agricultural fair. It is the intention of the club to enter a number of shearling rams in the Lethbridge Sheep Sale in the fall of 1931.

AGRONOMY.

The Department of Agronomy, under the direction of Mr. W. G. Smith, B.Sc., is engaged in the work of testing various chemicals as weed eradicators. The work is carried out under the direction of the Field Crops Commissioner, and in co-operation with the Committee on Weed Control of the National Research Council. It is undesirable at the present time to come to any definite conclusions, since only one year's results are available. However, sufficient data have been accumulated to enable us to make a few remarks at this time.

Chemicals used for the control of weeds can be divided into two classes, depending on whether they are selective or non-selective. Chemicals which are selective in their action are used to eradicate annual weeds from growing crops of cereals, with little or no injury to the crop. Non-selective chemicals are used for the eradication of perennial weeds and will, if applied in sufficient quantities, destroy them utterly.

Our results indicate that the spraying of annual weeds in growing crops may play an important part in our general scheme of weed eradication. On uncropped land most annual weeds can be prevented from seeding by tillage, but cultural practices for the control of annuals in cereal crops are limited. Where a grain rotation is practised, fields become badly infested with certain annuals and remain infested through the ability of the weed to germinate and mature seed while the crop occupies the land. Such a source of infestation offsets the work done previously by summerfallow and other forms of tillage. The spraying of cereal crops with selective chemicals will destroy certain weeds and at the same time cause very little injury to the crop; thus strengthening a weak point in our general scheme of annual weed eradication.

Of the annuals, stinkweed has received most of our attention because it is widely distributed in Alberta and can be controlled by chemicals. The best time for treatment is when the stinkweed is in the rosette stage and when the grain has three to four leaves. Further tests are being conducted to determine more definitely the proper time for treatment.

Chemicals used for the treatment of annuals in cereal crops are sulphuric acid, copper sulphate, iron sulphate, copper nitrate and several commercial preparations. Of these, sulphuric acid is very promising. It is cheap and it is effective. Stinkweed was practically eradicated from wheat with solutions made up of 50 pounds of concentrated acid and 50, 100 and 150 gallons of water. Sulphuric acid can be laid down in Raymond for less than one and one-half cents per pound, making the acre cost for the chemical 75 cents. Other chemical treatments used have been more costly. Sulphuric acid must be handled very carefully, as it destroys clothing and attacks many metals.

Through the assistance of the Consolidated Mining and Smelting Co. of Trail, B.C., a sprayer was obtained from France which was lead lined to resist the action of the chemical. At present no sulphuric acid sprayers are made or sold in Canada, but one of the Canadian farm implement companies is now working on a machine and hopes to have several ready for use during the summer of 1931.

The cereal crop is not seriously injured by treatments of selective chemicals. It looks sickly for a week or two, but rapidly recovers. Half of our trials with sulphuric acid have resulted in an increased yield of grain. The outlook for this method of weed eradication is hopeful.

A large number of chemicals have been tried on perennial weeds growing under various conditions in different parts of the Province. Of these, only those containing chlorate have seriously injured Canada Thistle, Perennial Sow Thistle and Quack Grass.

Our treatments with chlorate chemicals have been too light to effect complete eradication. In the majority of cases there was a weak survival of growth the year following the treatment. In the trials started in 1929 single treatments at the rates of application recommended by the manufacturers of herbicides containing chlorates have not completely eradicated Canada Thistle, Perennial Sow Thistle or Couch Grass.

Chemicals containing chlorates, when used as herbicides, produce a condition in the soil unsuitable to plant growth. Seeds germinate, but the young seedlings soon become yellow, sickly looking and often die. It is not known how long this condition lasts.

At the present time sodium chlorate and chemicals containing chlorate are too costly to be used on an acreage basis. The place of these chemicals is on small isolated patches and where tillage machinery cannot be used.

The work is being continued in 1931 on both annuals and perennials.

COMMERCIAL FERTILIZER EXPERIMENTS.

With Cereals.

The fertilizer experiments were conducted under the joint auspices of the Alberta Department of Agriculture and the Consolidated Mining and Smelting Company of Trail, B.C.

The experiments with grain were conducted on the farms of 45 farmer co-operators, located in the area served by the Raymond School of Agriculture, extending from Hillspring and Glenwood on the west to Bow Island and Foremost on the east. The fertilizers used were ammonium phosphate and triple superphosphate. The organizing and supervision of these experiments included the selecting of co-operators, the distribution of fertilizer, the acquiring and transportation of drilling equipment, the seeding of experimental plots, which were approximately 225 in number, the obtaining of soil samples for chemical analysis, the making of observations during the summer as to the progress of the crop and the effect of fertilization, and finally, the harvesting of rod rows and the thresh-

ing of the same for the determination of yields on the fertilized and unfertilized plots.

The work on the whole was very satisfactory, and very definite results were obtained as the result of fertilization. A copy of the complete report pertaining to the use of commercial fertilizers with grain has been forwarded to the Field Crops Commissioner.

With Sugar Beets.

In these experiments ammonium phosphate, triple superphosphate, ammonium sulphate and potash were used in varying rates of application, and also in combinations to a limited degree. The experiments were conducted on the farms of approximately 50 sugar beet growers, located throughout the sugar beet producing area of southern Alberta. As was the case for the grain, the supervision included the selection of co-operators, the distribution of fertilizer, supervising of seeding, harvesting and the recording of observations made throughout the growing season. A very complete report of the work done with sugar beets has been forwarded to the Field Crops Commissioner. This work was most interesting, and very gratifying results were obtained in the way of increased yields as the result of using the commercial fertilizers.

HORTICULTURE.

Horticulture results at the Raymond School during 1930 were even better than the splendid year of 1929. In fact, the gardens have proved to be one of the best advertisements for the school. Visitors came from miles around to see what could be grown under irrigation conditions.

Flowers were well up to the average and bloomed early, starting in May with the lilacs, continuing until late fall with the lathyrus, calendulas and hardy roses. We believe we have a record for early bloom in gladiolus; one, the Prince of Wales, was in full bloom on June 29th, the main crop of gladiolus and dahlias being in full bloom by July 15th. We are now growing 14 different varieties of roses, none of which require winter protection.

As mentioned in the last report, a sweet pea experiment was started. This so far has given encouraging results. We are now working with over 16 varieties, and these, over an eighth of a mile in length, were a beautiful sight during the summer and fall. The increase in seed was over elevenfold, not taking into consideration the thousands of blooms that were picked.

The fruit trees gave splendid returns, one Waneta plum yielding 67 pounds. The apples and crabs gave splendid returns, as also did the bush fruits.

The main garden, vegetables and vines, was up to the standard of the fruits and flowers. Tomatoes yielded very heavily, while 108 mature musk melons and 33 watermelons were picked.

The surrounding district is taking an increased interest in horticulture, and a horticulture society was started, with the result that a splendid flower show was held in late August.

SCHOOL FARM.

Crops.

A considerable increase in the acreage of sugar beets materially reduced the acreage sown to cereals in 1930. Yields, however, were satisfactory. Spring sown cereals were grown on fall plowed land and were irrigated once. Winter wheat was not irrigated. Sugar beets, sweet clover and alfalfa were irrigated twice.

Sugar Beets.

Acreage, 41; yield, 11 tons per acre. The yield was considered very good, especially since 10 acres were seriously thinned by cut-worms. The quality of about 50 per cent. of the crop was reduced by heavy frosts occurring in October.

Winter Wheat.

This crop wintered in perfect condition and yielded 45 bushels per acre.

Spring-sown Cereals.

Barley: Average yield 35 bushels per acre.

Oats: Average yield, 80 bushels per acre.

Alfalfa.

There are 40 acres sown to this crop. The oldest field has been down 9 years, and is still yielding a fair crop. Yield, 2.5 tons per acre.

Sweet Clover.

The crop was slow in coming on, and the stand was thinner than usual, but in spite of these difficulties it gave excellent results as a pasture and forage crop. In addition to being pastured early in the season, a 10-acre field produced material to fill a 100-ton silo; the second crop yielded 15 tons of hay.

Another 12-acre field was used as summer pasture for 25 head of cattle and 20 sheep.

LIVESTOCK.

Holsteins.

The herd at present consists of 29 head, which includes 13 cows in milk, 1 herd bull, 12 heifers and heifer calves, and 3 bull calves. Entry of the herd on R.O.P. test is being made.

Beef Cattle.

A carload of Hereford cattle was fitted for the Royal Winter Fair. We consider the winning of second place at Canada's major show with these cattle no small achievement, since it is our initial attempt at fitting show cattle.

Horses.

All field operations are performed by horses. At the present time we have 6 pure-bred Clydesdales, 7 Percherons, and 3 grades.

Sheep.

The flock now consists of 55 Oxford breeding ewes, 25 ewe lambs and 3 rams. Very vigorous culling has taken place during

the year, 35 breeding ewes having been sold. There has been a steady demand for ram lambs, although prices have been low.

Swine.

A breeding herd of six Tamworth sows is maintained. There has been an unusually heavy demand for breeding stock, and a number of young animals of both sexes have been sold.

Poultry.

From a pen of 30 pullets which was trap-nested for a year commencing October 1st, 1929, records of from 201 to 251 eggs per hen were made. At this time a pen of 35 pullets is entered in the Provincial Approved Flock 100-day test.

REPORT OF THE SCHOOL OF AGRICULTURE, VERMILION.

(W. J. ELLIOTT, *Principal*)

GENERAL CROP CONDITIONS.

Following the very short precipitation of 1929 and the less than normal snowfall of the winter of 1929-30, the spring of 1930 opened up apparently with the promise of the continuance of the drought. Many farmers seeded a fairly normal acreage of grain with serious misgivings. Succeeding the drought of 1929, each of the first four months of 1930 gave less than an inch of precipitation. June, however, brought the needed rain with 8.2 inches. July, August and September followed with a total of 9.2 inches, which insured an abundant crop. Apparently good crops were promised the world over. However, beginning with a serious world deflation of all manner of stock, wheat prices as well began to decline, and by the time the western crop was ready for market the prices were far below production costs. The simple facts are that there are more wheat stocks in the world than a liberal estimate of world requirements would seem to require. A striking feature of 1930 was the prevailing very heavy winds from the north-west and south-east, winds that filled the air with clouds of dust.

WEATHER REPORT—TEMPERATURES.

The following table indicates the average maximum and average minimum temperatures during each month of the year for 1926, 1927, 1928, 1929 and 1930, together with the highest and lowest temperatures recorded during each month for the above time.

Month	Average Daily Maximum					Average Daily Minimum				
	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930
January	20.3	11.8	.....	1.29	1.5	2.5	— 9.6	.....	22.0	—14.3
February	22.9	13.2	27.8	12.4	26.6	2.7	—12.0	5.6	11.3	5.4
March	34.8	32.7	32.2	34.5	35.4	.....	14.0	11.0	14.3	11.9
April	47.6	45.6	42.0	43.9	51.2	.....	23.7	21.5	23.9	26.8
May	64.8	58.0	70.3	62.1	60.1	38.0	35.6	38.2	33.7	34.8
June	67.3	71.0	65.8	73.6	69.6	42.9	45.1	42.8	42.2	45.5
July	78.2	73.8	73.1	78.3	77.2	49.3	49.7	49.0	47.0	48.7
August	76.6	75.9	67.3	77.4	75.6	49.3	45.8	40.9	45.6	46.9
September ..	71.4	60.9	65.4	61.4	61.6	46.4	39.6	28.5	31.5	36.1
October	49.3	53.9	45.6	60.5	43.5	23.2	26.9	23.0	22.1	23.3
November ..	26.6	17.8	39.3	36.8	35.5	5.3	— 3.1	13.6	12.0	16.5
December ..	18.7	4.0	27.6	9.6	30.3	— 7.4	—15.6	2.5	— 4.0	10.2
	47.7	43.2	50.5	45.9	47.1	18.5	20.0	25.1	25.4	24.3

HIGHEST AND LOWEST TEMPERATURE PER MONTH

Month	Highest Temperature					Lowest Temperature				
	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930
January	42	39	....	41	21	—29	—40	....	—56	—49
February ..	54	33	48	38	46	—29	—38	11	—49	—34
March	49	45	62	59	57	.....	— 8	15	—15	—15
April	79	63	79	71	67	.....	— 5	7	— 8	10
May	81	73.5	92	83	79	23	25	22	10	27
June	93	84	84	86	92	34	30	35	32	34
July	94	87	89	95	93	39	32	39	20	38
August	85	86	91	91	88	32	35	31	30	23
September ..	70	80	86	75	79	15	24	9	15	18
October	74	75	61	80	64	11	10	2	— 1	— 4
November ..	55	43	53	65	62	— 2	—36	1	—20	0
December ..	42	38	44	41	41	—36	—44	—37	—37	— 5

The absence of figures for March and April, 1926, is due to the breaking of the minimum thermometer. It will also be noted that no records appear for January, 1928. The average maximum temperature for 1930 is only .3° higher than the average for the past four years, while the average minimum temperature for the same period is 2.1° higher than the past four years' average.

Taking the crop months as April to September, we note that April, 1930, is 6.5° higher in temperature than the average for the past four years, while the temperatures for June, July and August is slightly higher, and those for May and September are lower. The higher temperatures for June, July and August coupled with the abundant precipitation of those three months accounts for the rapid growth and abundant crop for 1930.

YEARLY AVERAGE TEMPERATURE

Year.	Maximum.	Minimum.
1926	47.7	*18.5
1927	43.2	20.0
1928	50.5	*25.1
1929	45.9	25.4
1930	47.1	24.3

*The minimum average for 1926 omits the record for two months, and that of 1928 for one month. See previous table.

PRECIPITATION (SNOW AND RAIN) BY MONTHS FOR 1926, 1927, 1928, 1929, 1930.

Month.	Rainfall in Inches.				
	1926	1927	1928	1929	1930
January	.50	.10	.....	.81	.45
February	1.90	.10	.00	.50	.25
March	.20	.10	.10	.71	.20
April	.33	2.36	.60	1.02	.98
May	1.81	1.12	1.52	1.63	1.62
June	2.55	2.00	2.31	.97	8.20
July	1.93	6.66	5.17	1.64	3.83
August	4.84	1.70	1.25	1.10	1.43
September ..	1.00	3.25	.77	1.18	4.07
October	.30	2.60	.20	.00	.50
November ..	.90	2.75	.00	.67	2.57
December ..	.80	.45	.10	.63	.30
Totals.....	12.02	23.19	12.92	10.76	24.40

From the above table it will be noted that the precipitation for the past three years has been getting less, having dropped from 23.19 inches in 1927 to 10.76 inches in 1929. In spite of the very light moisture during the first four months of 1930, the heavy and continuous rains of the late summer brought the precipitation up to the highest level for the past four years, viz., 24.4 inches. Thus, the heavy moisture during the crop season produced the abundant crop.

SUNSHINE RECORD.

We herewith submit a table for 1926 to 1930 inclusive, giving the total monthly sunshine, in hours, for the respective years:

Month.	Total Hours per Month.				
	1926	1927	1928	1929	1930
January	87.7	115.4	.....	74.8	70.5
February	89.0	145.1	132.0	115.1	74.8
March	198.9	136.4	137.4	194.9	191.7
April	186.2	226.9	168.8	149.1	154.0
May	199.0	181.1	295.6	251.8	198.6
June	250.1	264.1	191.0	270.5	203.3
July	291.7	262.8	232.3	337.2	326.5
August	184.5	290.8	264.1	274.6	256.6
September	104.0	171.5	236.2	151.5	165.0
October	121.2	110.9	123.7	222.3	117.1
November	51.6	66.4	137.9	82.0	123.5
December	97.3	86.3	69.7	70.0	81.8
	1861.2	2057.7	2155.2	2123.8	1972.4

The total sunshine hours for 1930 are less than the average for the past four years. The falling off occurred in the months of January, February and April, while July is close to that of 1929, which was the highest by a considerable amount for the past four years.

We have taken from the above the average daily hours of sunshine for each of the years 1926, 1927, 1928, 1929 and 1930.

Month.	Average Daily Sunshine.				
	1926	1927	1928	1929	1930
January	2.8	3.7	.....	2.4	2.3
February	3.1	5.1	4.5	4.0	2.6
March	6.4	4.4	4.4	6.2	6.2
April	6.2	7.5	5.6	4.9	5.1
May	6.2	5.8	9.5	8.1	6.4
June	8.3	8.8	6.5	9.0	6.8
July	9.4	8.4	9.4	10.8	10.5
August	5.9	9.3	8.5	8.8	8.5
September	3.4	5.7	7.9	5.0	5.5
October	3.9	3.5	4.1	7.3	3.8
November	1.7	2.1	4.4	2.7	4.1
December	3.1	2.7	2.4	2.2	2.8
Daily Average	5.0	5.58	5.87	5.95	5.38

Taking the year as a whole, the average hours of sunshine per day for 1930 was 5.38 hours, as compared with 5.8 hours for the previous three years. The year 1930, however, exceeds 1926 by .38

hours per day. The lack of sunshine for 1930 is probably due to the high winds and consequent cloudy condition of the early summer.

AGRICULTURAL SCHOOL ATTENDANCE.

The attendance of young men and women at the Vermilion School has steadily increased since the doors were opened for a second time in 1924, until this year, when on account of adverse grain prices, due to world economic conditions, the attendance has fallen off somewhat. When the registration was finally complete, we were surprised to receive 120 students.

The students by classes and years since 1925 are herewith given.

AGRICULTURAL SCHOOL ATTENDANCE BY CLASSES AND YEARS.

	1925	1926	1927	1928	1929	1930
First Year Girls	28	38	31	45	35	19
First Year Boys	40	55	61	72	60	46
Second Year Girls .....	....	6	16	11	13	14
Second Year Boys .....	....	24	24	*32	31	22
Third Year Girls .....	....	....	....	6	2	1
Third Year Boys .....	....	....	....	5	13	8
British Boys	23	7	18	35	13	....
Girls taking 2 in 1 .....	....	....	....	1	....	6
Boys taking 2 in 1 .....	....	....	....	4	10	4
	91	130	149	*211	177	120

*NOTE.—Although appearing as a boy, one of these was a girl, Miss Elma Gudlaugson, who took the Agricultural Course, and in the case of the total students recorded for 1928 it will be remembered that 35 of these were at the school during the summer. Our real attendance, however, during the school year was 176.

This is rather a serious drop as compared with last year, and breaks our record of a gradual increase in attendance each year since the school reopened. However, for this year we regard the attendance as very good indeed. We were very pleased to see six lady teachers come in for the 2 in 1 course. These girls are a wonderfully helpful influence in the school life. We are also pleased to have back for the second year the nine Scotch Scout boys who came forward under a scholarship scheme. They are enjoying a scholarship for the second winter. Of the eight third year boys, two entered at Christmas.

THE NEW DORMITORY.

The new dormitory continues as a wonderful help in the handling of the students. It adds materially to the comfort, pleasure and social life of the students.

HEALTH OF STUDENTS.

As a first duty, the doctor and nurse give all the students a thorough physical examination, then for the balance of the winter the nurse cares for all minor illnesses, and with the medical fees collected from the students we are assured of the doctor's services for the winter.

A glance at the doctor's report regarding the physical examination is an enlightening thing in indicating the physical condition of the ordinary run of young people from the farms of Alberta.

THE SCHOOL FARM.

While we have the general supervision of the operation of the farm, Mr. Andrew has this work as his special care.

EXPERIMENTAL PLOTS.

Mr. Whitbread again had two helpers in this branch. The plot work was not developed into anything very elaborate, as the main work consisted of variety tests of wheat, oats, barley, peas, flax and rye. Experimental work with vegetables was also undertaken, particularly with seeds secured through the School Fairs Branch. Varieties were tested in duplicate, and developed on one-hundredth acre plots.

SCHOOL FAIR SEEDS.

For three years, and at the request of the School Fairs Branch, we have been testing the seeds purchased for school fairs with bulk seeds purchased from prominent seed houses with a view to seeing whether there is any difference with regard to germination, yield and trueness to type.

PHOSPHATE EXTENSION WORK.

This work entailed the application of the fertilizer with the farmer co-operator's seed. To do this the fertilizer company provided a truck and drill with a man to accompany same. Seeding commenced on April 14th and was finished on May 23rd. The crops sown were: 18 five-acre plots of wheat, 24 five-acre plots of oats, and 1 five-acre plot of barley. These plots were distributed among 24 farmers in the following districts: Vegreville, Vermilion, Clandonald, Landonville, Greenlawn, Riverton, Marwayne, Streamstown, Blackfoot, Furness, Paradise Valley and Moyerton.

The inspections entailed some 7,000 miles of travel, and five separate reports were sent to the Field Crops Branch.

This work met with the keenest interest among the co-operators, and some very glaring differences in yield resulted in favour of applying the fertilizer.

FRUIT AREA.

The fruit area was not extended this year. The fruits promised for this year's planting were not forthcoming, due to the severe drought, which lasted well into June.

Some fruits now in the area gave an excellent crop, and this was the first time that crab-apples had appeared.

The raspberries and strawberries are badly in need of being restocked.

Native plum and hybrid varieties gave their best crop of fruit. A large quantity of the fruit was picked by visitors, a situation difficult to cope with, since the area is so open to them.

No further windbreaks were planted. Those started in 1929 made a large growth, and seem to be well established.

Many conifers of the 1929 planting had to be taken out dead and others planted in their place.

The two areas now existing between the windbreaks would serve admirably for the growing of extension material for distribution, e.g., fruit cuttings, tree cuttings and slips, flowers of all kinds, all of which would be greatly appreciated by the farmers in the district and would give a greater contact between the school and the farmer.

LEGUME CULTURE.

In July this year a complete report of the protein survey carried out in this district was submitted. At the present time some experiments on the absorption of nitrogen by wheat plants, and the distribution of nitrogen in various parts of the plants as influenced by crop sequence and fertilizers, are being carried on. As a sequel to this work, a study of the absorption of nitrogen in various parts of the plants as influenced by the stage of maturity, is planned.

SWINE CLUBS.

During the year we have continued to supervise the Vermilion and Manville Swine Clubs. Lack of feed curtailed the number of club members, but we were able to keep the membership more than strong enough to maintain the clubs. The members have been of real value to this section in that all available breeding females raised have been sold to farmers. This reduced the number of hogs shipped out, but the combined car from these clubs won fourth place in the Provincial competition. Each club was represented in the judging competitions held in Edmonton early in November.

The boars loaned from the Dominion Live Stock Branch have been moved to other caretakers. In this way their continued service is guaranteed to the community. We have been unable to secure any new boars from the Department, but have assisted several farmers to purchase boars privately. While there still is a scarcity of boars, the majority of this territory is reasonably well provided for.

We have been fortunate in securing five new pure-bred rams from the Dominion Livestock Branch for use in our local club. We have also assisted some beginners in establishing foundation flocks.

In co-operation with the Field Crops Branch, we supervised the Junior Field Crops Competition for this district. There were 25 members in all, and in almost every case keen interest was taken in this scheme for the improvement of seed.

Another item of importance was the holding of classes in stock judging at various schools throughout the school fair districts. While this work was an experiment, it was well received by farmers generally and is, I think, worthy of further effort.

The above-named activities, together with correspondence and judging at agricultural society fairs and school fairs, complete the programme of extension work carried on during the past year.

SCHOOL FAIR REPORT.

The school fairs were again under the immediate direction of Mr. Heckbert, and we consider were quite successful in almost every instance, there being a general increase in all phases of the work.

THE PRESENT STAFF.

W. J. Elliott, B.S.A., Principal and Instructor in Civics and Farm Management; D. A. Andrew, B.S.A., Farm Manager and Instructor in Animal Husbandry; S. C. Heckbert, Instructor in Mechanics; J. E. Edgar, B.Sc., Instructor in Science; W. G. Malaher, B.S.A., Instructor in English and Mathematics; B. J. Whitbread, B.S.A., Instructor in Agronomy; F. B. Dixon, Mathematics and in charge of the Third Year Course; W. B. Turnbull, assisting with Third Year Course, English, History, Composition, etc.; Edsel Jones, Assistant Instructor of Blacksmithing; E. W. Cormack, Instructor in Dairying and Drill Work; Miss M. E. Storey, Matron and Dietitian; Miss M. P. Shaw, Instructress in Sewing; Miss L. M. I. Milne, Instructress in Cooking; Miss Ethel Jones, Instructress in Nursing.

We wish, in closing, to commend the faithful work by the staff at this school. We have had very loyal support and sympathy from all, and it would have been impossible for the work to have gone so smoothly had this not been the case. The Principal herewith acknowledges his indebtedness to the loyalty and support of all those who have assisted him during the year.

ALUMNI SEED FAIR.

We have just completed our first seed fair held Saturday, January 10th, 1931, under the auspices of the Alumni Association of the V.S.A. A detailed statement has been submitted by Mr. Whitbread, who has had charge of this work.